SERVICE MANUAL

MX583

4822 725 508

AMP:PM583/TUNER:ST583/ST583L/CASSETTE DECK:SD5

marantz®

model MX583

System Component

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the ultimate in stereo sound.
Only **original MARANTZ parts** can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified.
The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

MARANTZ INTERNATIONAL
Vestdijk 9
5600 MD Eindhoven
The Netherlands
Phone: +31/40.758290
Telefax: +31/40.75.82.99
Telex: 35000 PHTC NL routing IND NLMTFAT

PARTS ORDERING

Parts may be ordered at the following addresses:

AUSTRIA
HORNYPHON
Vertriebsgesellschaft GmbH
Wienerbergstrasse 1
A 1101 Wien
Austria
Telex: 132.332

BELGIUM
SVD DIVISION MARANTZ
Industrialaan 1
1720 Groot-Bijgaarden
Belgium
Telex: 24466

CHILE
MARANTZ
DIVISION OF PHILIPS S.A.
AV. Santa Maria, 0760
Casilla 2687
Santiago
Telex: 240.239

DENMARK
MARANTZ
DIVISION OF PHILIPS
SERVICE A/S
Prags Boulevard 80
Postbox 1919
DK-2300 København S
Denmark
Telex: 31201

FINLAND
MARANTZ
DIVISION OF OY PHILIPS Ab
Kaivokatu 8
00100 Helsinki
Finland
Telex: 124811

FRANCE
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

GERMANY
MARANTZ GERMANY GmbH
Alexanderstrasse 1
2000 Hamburg
Germany

THE NETHERLANDS
Elpro Marantz
Wint Hontlaan 28
3526 KV Utrecht
The Netherlands
Telex: 4748

NORWAY
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DIVISION OF PHILIPS A/S
Sandstuveien 40
0680 Oslo 6
Norway
Telex: 72640

GREAT BRITAIN
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GREECE
SHERTON ELECTRONICS S.A.
P.O.Box 21025
Hippocratus Street 188
Athens 11471
Greece
Telex: 216.795

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MARANTZ JAPAN, Inc.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
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Ussama Building
Fahd al Saleem Street
P.O.Box 23781
Safat-Kuwait
Telex: 22694

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20126 Milano
Italy

SAUDI ARABIA
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Riyadh 11432
Saudi Arabia
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SOUTH AFRICA
MARANTZ
DIVISION OF PHILIPS S.A.
Main Road Martindale
P.O. Box. 58088
Newville 21114
South Africa

SPAIN
PHONO S.A.
Ignacio Iglesias 10
Badalona (Barcelona)
Spain
Telex: 59355

SWEDEN
MARANTZ
DIVISION OF PHILIPS
Försäljning AB
Tegeluddsvägen 1
S-115 84 Stockholm
Sweden
Telex: 14060

SWITZERLAND
MARANTZ
Technischer Service
Duenstrasse 3
3186 Düdingen
Switzerland

TURKEY
DOGRUOL Ltd.
I.M.C.
6 Blok N°6310
Unkapani
Istanbul
Turkey
Telex: 22085

MALTA
CACHIA & GALEA
Republic Street, 68D
Valetta
Telex: 1682

PORTUGAL
MARANTZ
Divisao philips S.A. service
Outurela-carnaxide
2795 LinDA-A-VELHA
Telex: 43906

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please, contact the nearest facility for the necessary assistance.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

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How to use this service manual

- The "Common parts" which Marantz Japan, Inc. has established are eliminated from this service manual.
- These "Common parts" are applied to all models in the service manuals arranged and issued by MJI.
- To indicate clearly the common parts in the schematic diagram, a line is drawn above or under the Ref. Desig. No. of applicable parts.
- "Common parts" can be supplied from the Marantz service center as ever. In case of ordering, please establish the parts number of 12 N/C'S following the procedure mentioned in this service manual "How to establish the parts number for common parts".

1) Please correctly write the parts number of 12 N/C'S following the rule.

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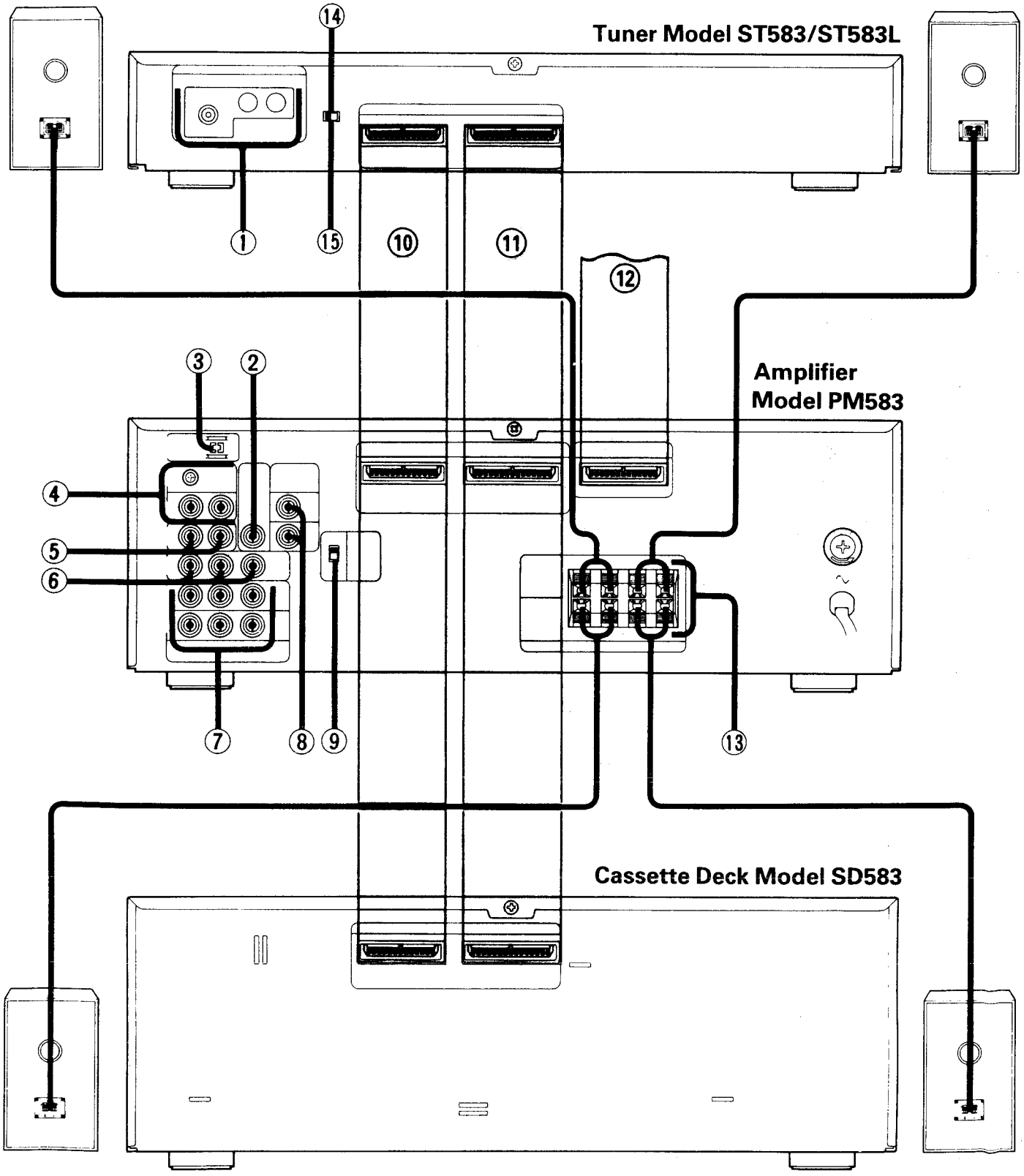
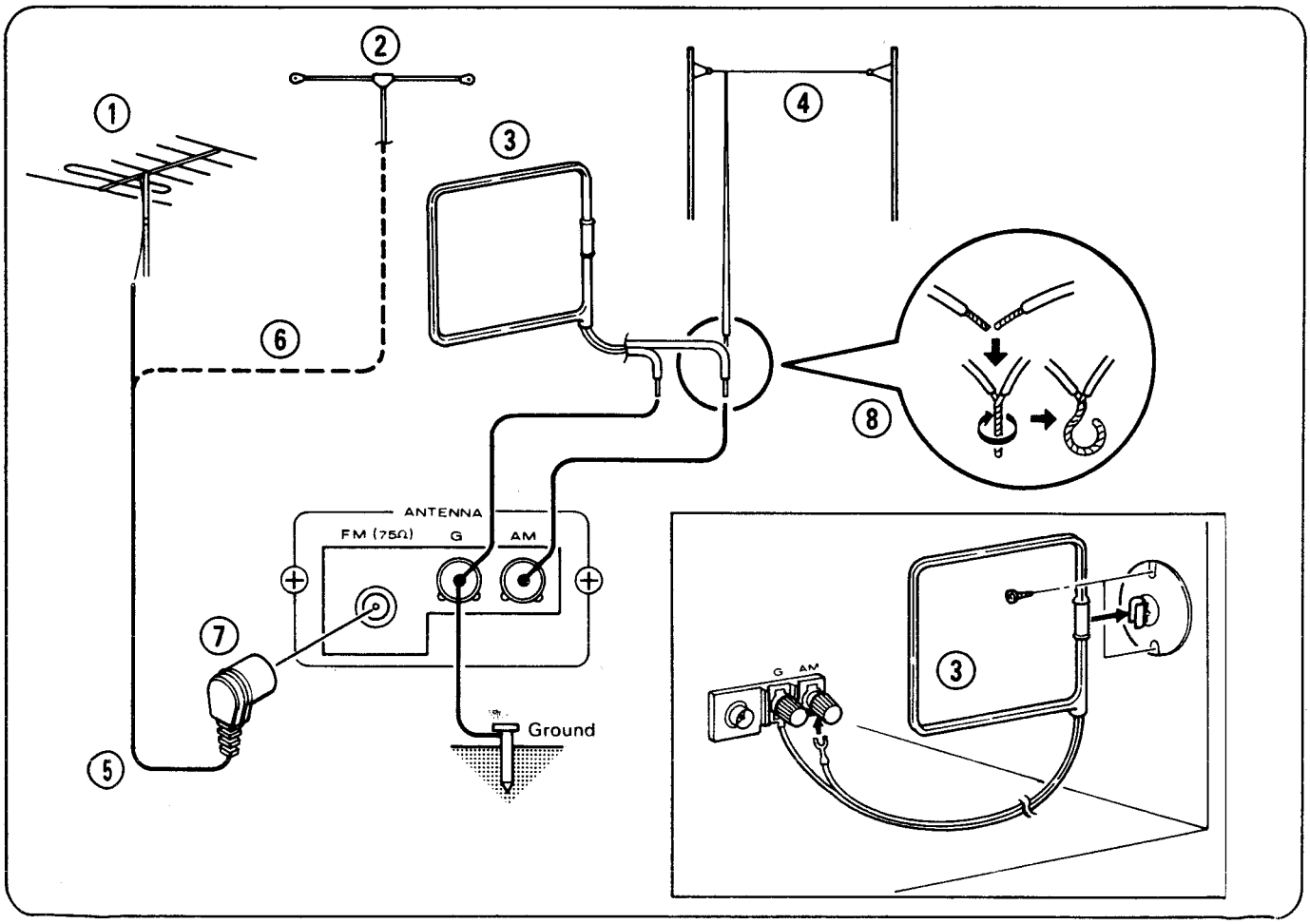
SYSTEM CONNECTION DIAGRAM

Model MX583



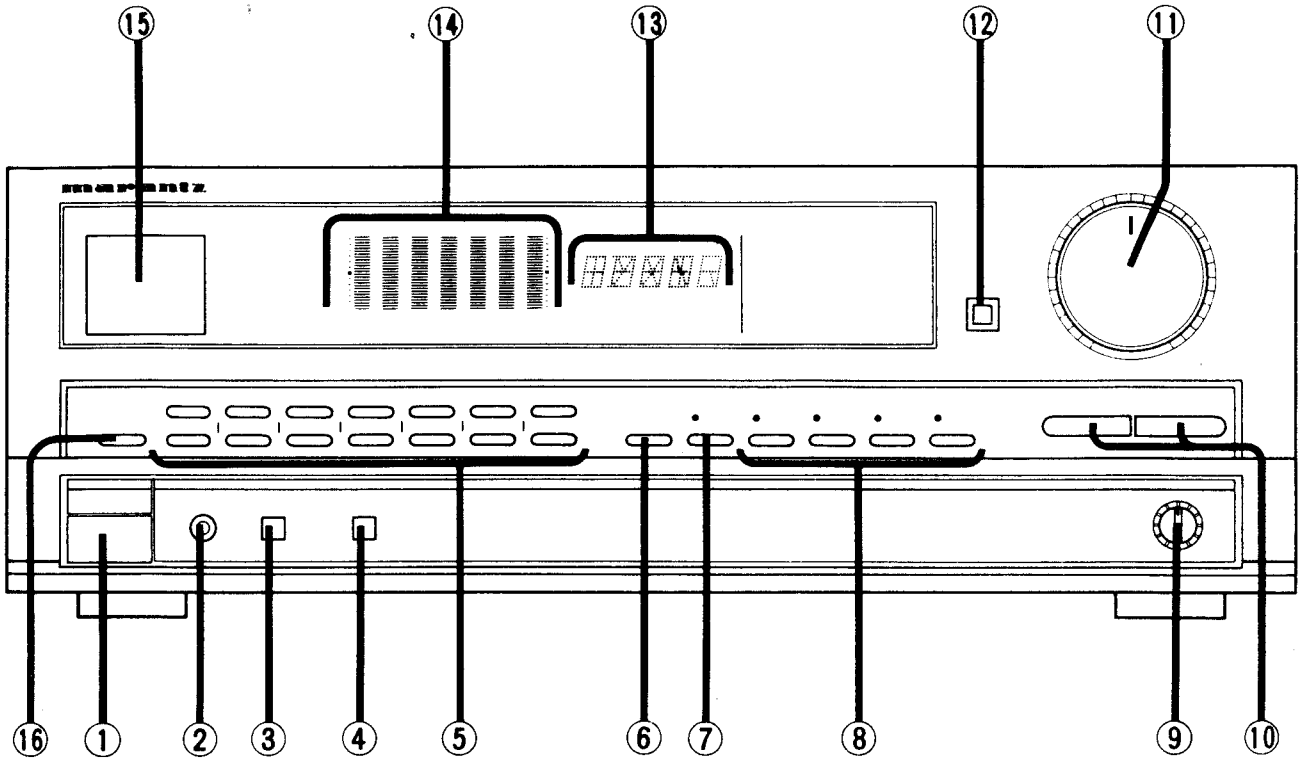
① FM/AM Antenna Terminal
② Television Video Output Terminal (TV)
③ Reset Button
④ Turntable Input Terminals (PHONO)
⑤ TV Input Terminals (TV)
⑥ Compact Disc Video/Compact Disc Input Terminals (CDV/CD)
⑦ VCR Input and Output Terminals (VCR)
⑧ Remote Control Bus Terminals
⑨ VCR Input Sound Changeover Switch
⑩ Audio Terminal
⑪ Control Terminal
⑫ Surround Terminal
⑬ Speaker Terminals
⑭ Scan Step Selector
⑮ FM DE-Emphasis Switch

CONNECTION OF FM AND AM ANTENNAS

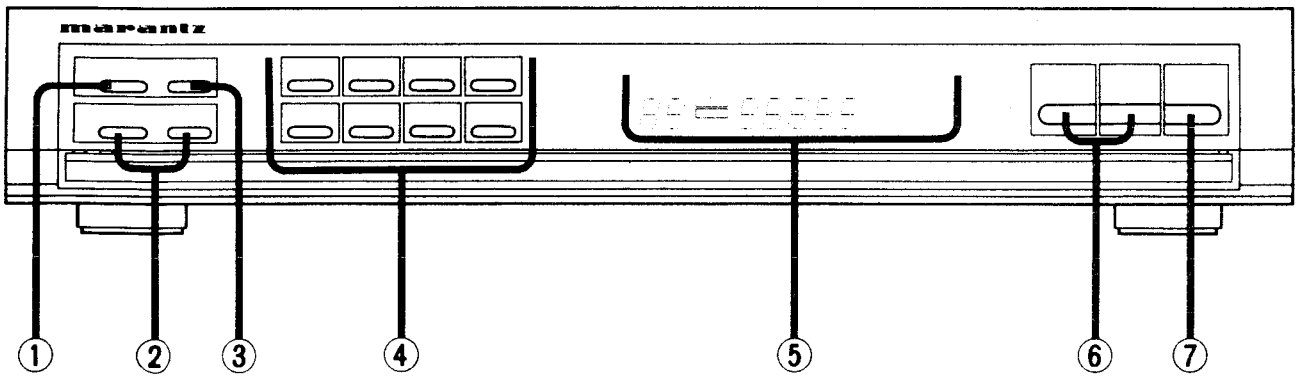


① Outdoor FM Antenna
② Indoor FM Antenna
③ Indoor AM Loop Antenna
④ AM Outdoor Antenna
⑤ 75 Ohm Coaxial Cable
⑥ Shielded 300 Ohm Twin Feeder Cable
⑦ Twin Feeder to Coaxial Plug Adapter
⑧ Install the AM Antenna Lead Wire with the Loop Antenna Lead

NZ 1911



Amplifier Model PM583



Tuner Model ST583/ST583L

① Power Switch
② Headphone Jack
③ Speaker Switch
④ Surround Effect Button
⑤ Equalizer Control Buttons
⑥ Equalizer Flat Button
⑦ Memory Button and Indicator
⑧ Equalizer Memory Buttons and Indicators
⑨ Balance Control Knob
⑩ Audio/Video Function Select Buttons
⑪ Volume Control Knob
⑫ Muting Button and Indicator
⑬ Function Indicator
⑭ Spectrum Analyzer/Equalizer Display
⑮ Remote Control Sensor
⑯ Display Control Button

① Memory Button
② Tuning +/– Buttons
③ FM Mode Buttons
④ Preset Buttons
⑤ Digital Frequency Display
⑥ Preset +/– Buttons
⑦ Band Select Button

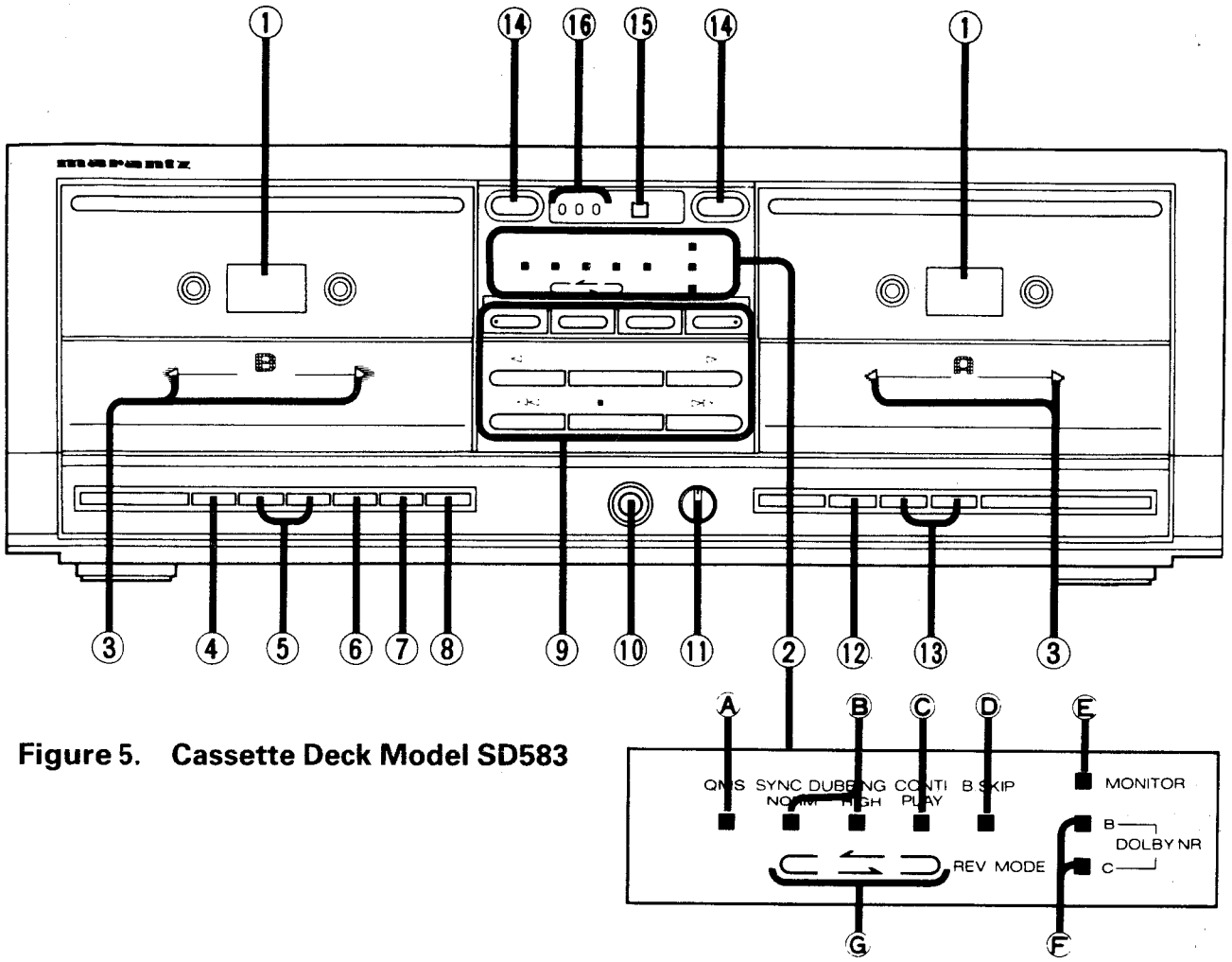
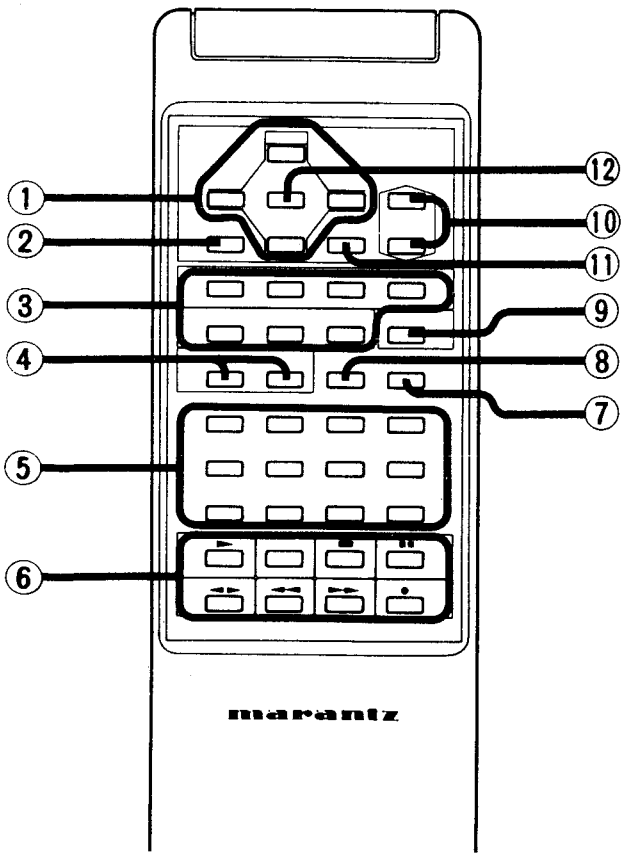


Figure 5. Cassette Deck Model SD583

REMOTE CONTROL UNIT MODEL RC-53



① Cassette Compartments

② Display Indicators

- Ⓐ Quick Music Sensor (QMS) Indicator
- Ⓑ Dubbing Speed Indicators
- Ⓒ Continuous Play Indicator
- Ⓓ Blank Skip Indicator
- Ⓔ Monitor Indicator
- Ⓕ Dolby Noise Reduction System Indicators
- Ⓖ Reverse Mode Indicator

③ Tape Direction and Function Indicators

④ Quick Music Sensor (QMS) Button

⑤ Dubbing Speed Buttons

⑥ Continuous Play Button

⑦ Blank Skip Button

⑧ Reverse Mode Button

⑨ Control Buttons

⑩ Microphone Jack

⑪ Mixing Level Control Knob

⑫ Synchronized Recording Button

⑬ Dolby B and Dolby C Noise Reduction Buttons

⑭ Eject Buttons

⑮ Counter Reset Buttons

⑯ Tape Counter

① Surround Processor Operation Buttons

② Acoustic Button

③ Function Select Buttons

④ Deck A/B Select Buttons

⑤ Numerical Buttons

⑥ Cassette Deck Controls

⑦ Memory Button

⑧ Search Button

⑨ Mode Button

⑩ Volume Control Buttons

⑪ Graphic Equalizer Button

⑫ Mutting Button

AMPLIFIER SECTION

1. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Stereo Amplifier.

Item	Use
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
AC VTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Circuit Tester	Trouble shooting
DC VTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to amplifier
Line Voltmeter	Monitors potential of primary power to amplifier
Variable Autotransformer	Adjust level of primery power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup

2. P.W. BOARDS

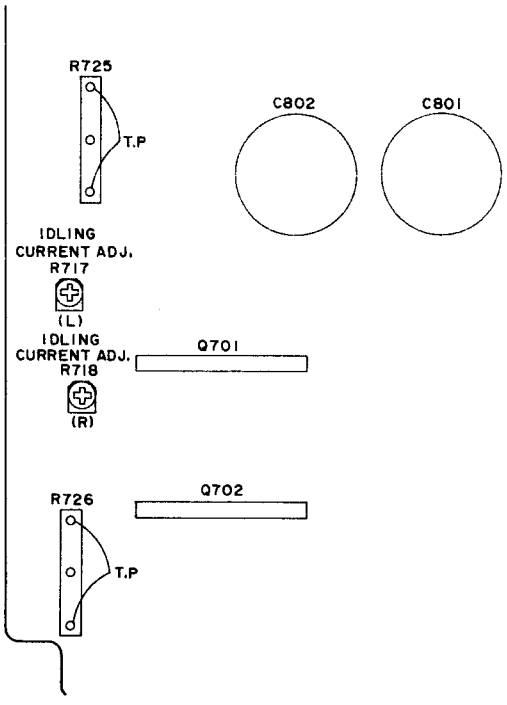
1. Power Transf. ..... mounted on P.W. Board PA34
2. Motor Volume ..... mounted on P.W. Board PG04
3. Balance Volume .... mounted on P.W. Board PG14
4. Volume LED ..... mounted on P.W. Board PG34
5. Video Amp ..... mounted on P.W. Board PL04
6. Power Switch ..... mounted on P.W. Board PA24
7. Function ..... mounted on P.W. Board PS04
8. μ-com ..... mounted on P.W. Board PU04
9. Fip Tact Switch .... mounted on P.W. Board PU14
10. Multi Connector ... mounted on P.W. Board PV04
11. Main/Power Supply ..... mounted on P.W. Board P704
12. Speaker Switch .... mounted on P.W. Board P774
13. Speaker Terminal .. mounted on P.W. Board P784

3. ADJUSTMENT PROCEDURES

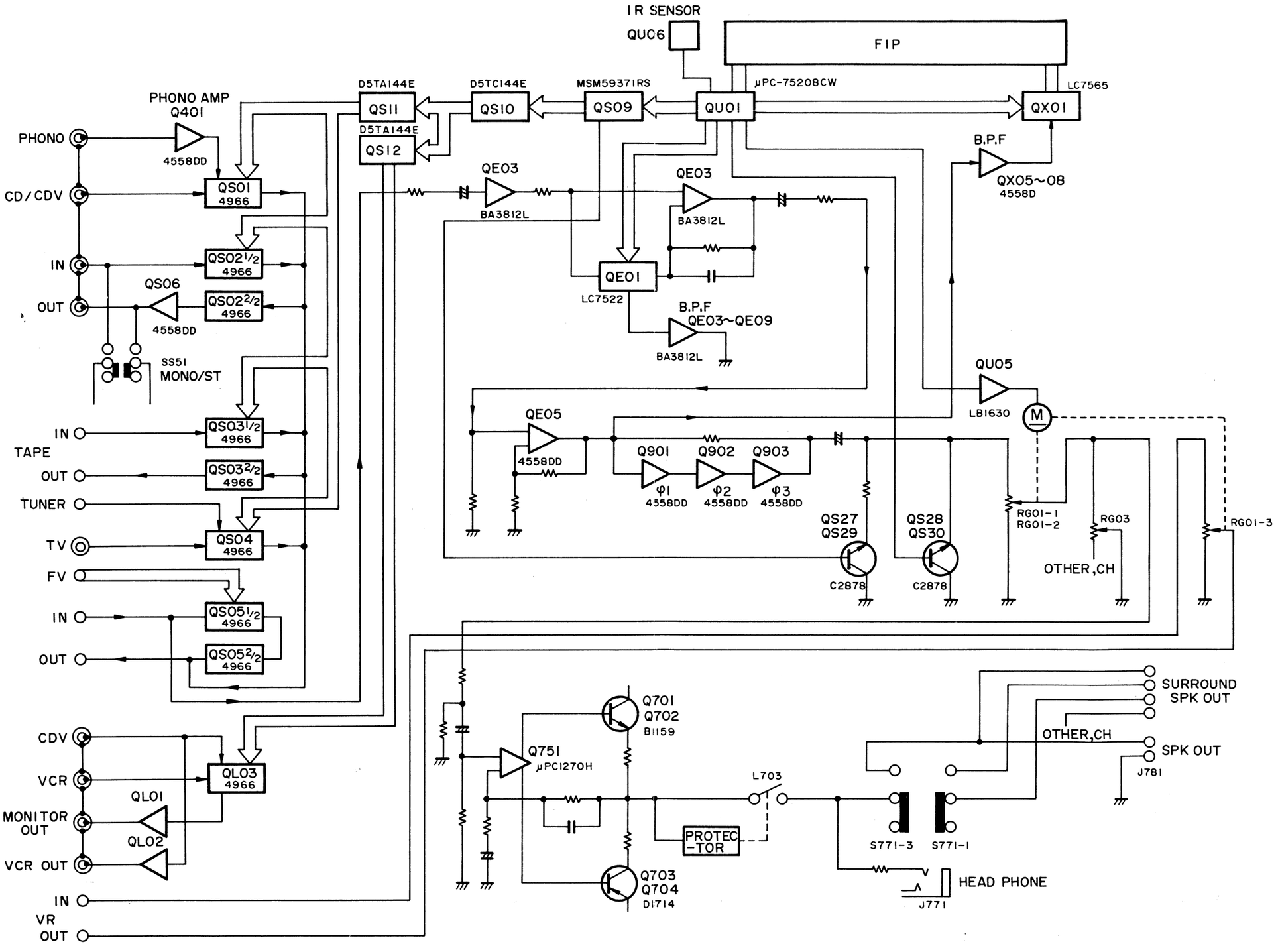
MAIN AMPLIFIER IDLING CURRENT ADJUSTMENT.

Connect a digital voltmeter to the adjustment terminals of the R725 and R726 emitter resistors, turn on the power, wait 10 seconds, then adjust R717 and R718 for a reading of 4 mV ±1.5 mV.

4. TEST POINT AND ALIGNMENT POINTS



5. BLOCK DIAGRAM

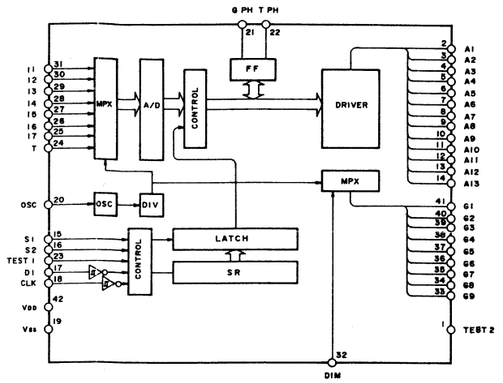


able of Function Names, IC Numbers, and Voltages

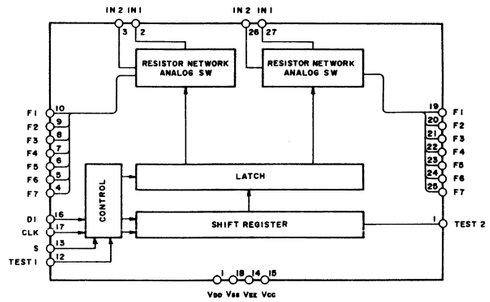
NIT = V

FUNCTION	IC NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PHONO	QS01	0	0	0	0	14.2	14.2	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS02	0	0	0	0	14.2	−12.9	−14.7	0	0	0	0	−12.9	14.2	14.3
	QS03	0	0	0	0	14.1	−14.7	−14.7	0	0	0	0	−14.7	14.1	14.3
	QS04	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS05	0	0	0	0	0	0	−14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	5.6	0	0	0	0	0	0	0	0	0	0
	QS10	0	14.1	0	14.1	14.1	14.1	0	0	0	0	5.6	0	–	–
	QS11	14.3	−14.5	14.2	−12.9	−14.7	−14.6	14.3	14.1	14.1	14.1	0	14.1	–	–
	QS12	5.6	5.6	−6	−5	5.6	−6	5.6	5.6	−5	5.6	5.6	0	–	–
	QL07	0	0	0	0	0	−6	−6	0	0	0	0	−5	−5	6
CD (CDV)	QS01	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	14.2	14.2	14.3
	QS02	0	0	0	0	14.3	−12.9	−14.7	0	0	0	0	−12.9	14.2	14.3
	QS03	0	0	0	0	14.1	−14.7	−14.7	0	0	0	0	−14.7	14.1	14.3
	QS04	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS05	0	0	0	0	0	0	−14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0 (5.6)	0	0	0	5.6 (0)	0	0	0	0	0	0	0
	QS10	0	0	14.1	14.1	14.1	14.1	0	0	0	0	0	5	–	–
	QS11	14.3	14.3	−14.5	−12.9	−14.7	−14.6	14.3	14.1	14.1	14.1	14.1	0	–	–
	QS12	5.6	5.6	−6	−5	5.6	5.6	5.6	0.6	−5	5.6	5.6	0	–	–
	QL07	0	0	0	0	0	5.6	−6	0	0	0	0	−5	−5	6
TUNER	QS01	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS02	0	0	0	0	14.3	−12.9	−14.7	0	0	0	0	−12.9	14.3	14.3
	QS03	0	0	0	0	14.1	−14.7	−14.7	0	0	0	0	−14.7	14.1	14.3
	QS04	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	14.3	14.3	14.3
	QS05	0	0	0	0	0	0	−14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	0	0	0	0	5.6	0	0	0	0	0	0
	QS10	0	14.1	14.1	14.1	14.1	14.1	0	0	0	0	0	0	–	–
	QS11	14.3	−14.5	−14.5	−12.9	−14.6	−14.6	14.3	14.1	14.1	14.1	14.1	14.1	–	–
	QS12	5.6	5.6	−6	−5	5.6	−6	5.6	5.6	−5	5.6	5.6	0	–	–
	QL07	0	0	0	0	0	−6	−6	0	0	0	0	−5	−5	6
TAPE	QS01	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS02	0	0	0	0	14.3	−12.9	−14.7	0	0	0	0	−12.9	14.3	14.3
	QS03	0	0	0	0	−14.7	14.2	−14.7	0	0	0	0	14.2	−14.7	14.3
	QS04	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS05	0	0	0	0	0	0	−14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	0	0	0	0	0	5.6	0	0	0	0	0
	QS10	0	14.1	14.1	14.1	0	14.1	0	0	5.6	0	0	0	–	–
	QS11	14.3	−14.5	−14.5	−12.9	14.2	−14.5	14.3	14.1	0	14.1	14.1	14.1	–	–
	QS12	5.6	5.6	−6	−5	5.6	−6	5.6	5.6	−5	5.6	5.6	0	–	–
	QL07	0	0	0	0	0	−6	−6	0	0	0	0	−5	−5	6
VCR	QS01	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS02	0	0	0	0	−14.5	14.2	−14.7	0	0	0	0	14.2	−14.5	14.3
	QS03	0	0	0	0	14.1	−14.7	−14.7	0	0	0	0	−14.7	14.1	14.3
	QS04	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS05	0	0	0	0	0	0	−14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	0	5.6	0	0	0	0	0	0	0	0	0
	QS10	0	14.1	14.1	0	14.1	14.1	0	0	0	5.6	0	0	–	–
	QS11	14.3	−14.5	−14.5	14.2	−14.7	−14.5	14.2	14.2	14.1	0	14.1	14.1	–	–
	QS12	5.6	5.6	−6	5.5	−6	−6	5.6	5.6	5.6	0.6	5.6	0	–	–
	QL07	0	0	0	0	0	−6	−6	0	0	0	0	5.5	5.5	6
TV	QS01	0	0	0	0	−14.5	−14.5	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS02	0	0	0	0	14.3	−12.9	−14.7	0	0	0	0	−12.9	14.3	14.3
	QS03	0	0	0	0	14.1	−14.7	−14.7	0	0	0	0	−14.7	14.1	14.3
	QS04	0	0	0	0	14.3	14.3	−14.7	0	0	0	0	−14.5	−14.5	14.3
	QS05	0	0	0	0	0	0	−14.7	0	0	0	0	14.1	14.1	14.3
	QS09	0	0	0	0	0	5.6	0	0	0	0	0	0	0	0
	QS10	0	14.1	14.1	14.1	14.1	0	0	5.6	0	0	0	0	–	–
	QS11	14.3	−14.5	−14.5	−12.9	−14.7	14.2	0	0	14.1	14.1	14.1	14.1	–	–
	QS12	5.6	−2.2	5.6	−5	5.6	−6	5.6	5.6	−5	5.6	−2.2	5.6	–	–
	QL07	0	0	0	0	0	−6	−6	0	0	0	0	−5	−5	6

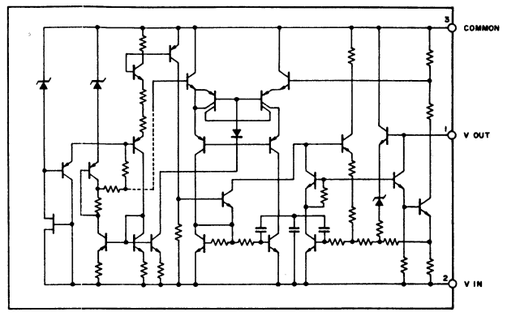
QX01



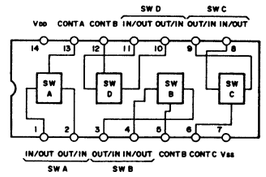
QE01



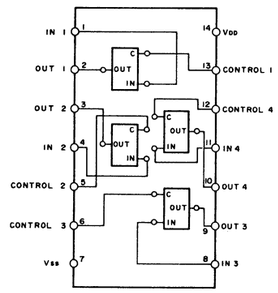
Q833, Q835



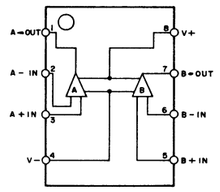
QS01 ~ QS05



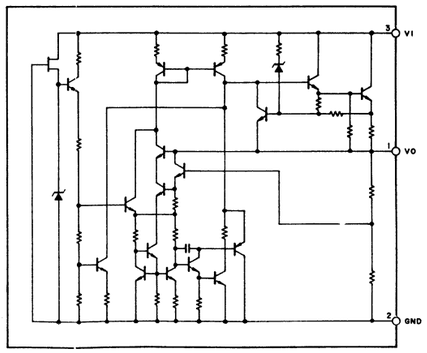
QT51
QL07



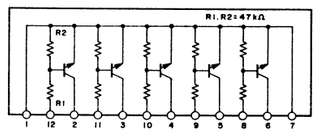
QE05, Q901 ~ Q903, Q401
QX05 ~ QX08, QS06
QJ31



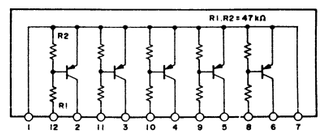
Q811, Q831
Q834, Q836



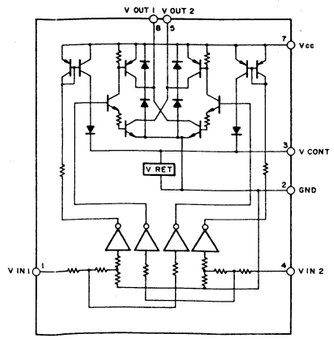
QS10



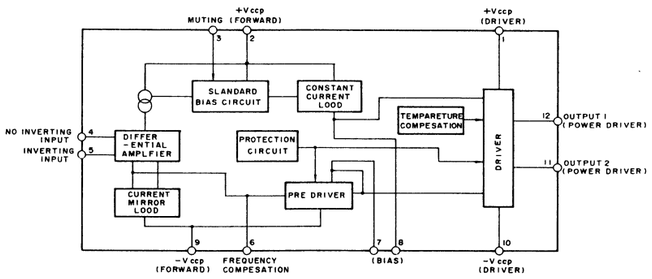
QS11, QS12

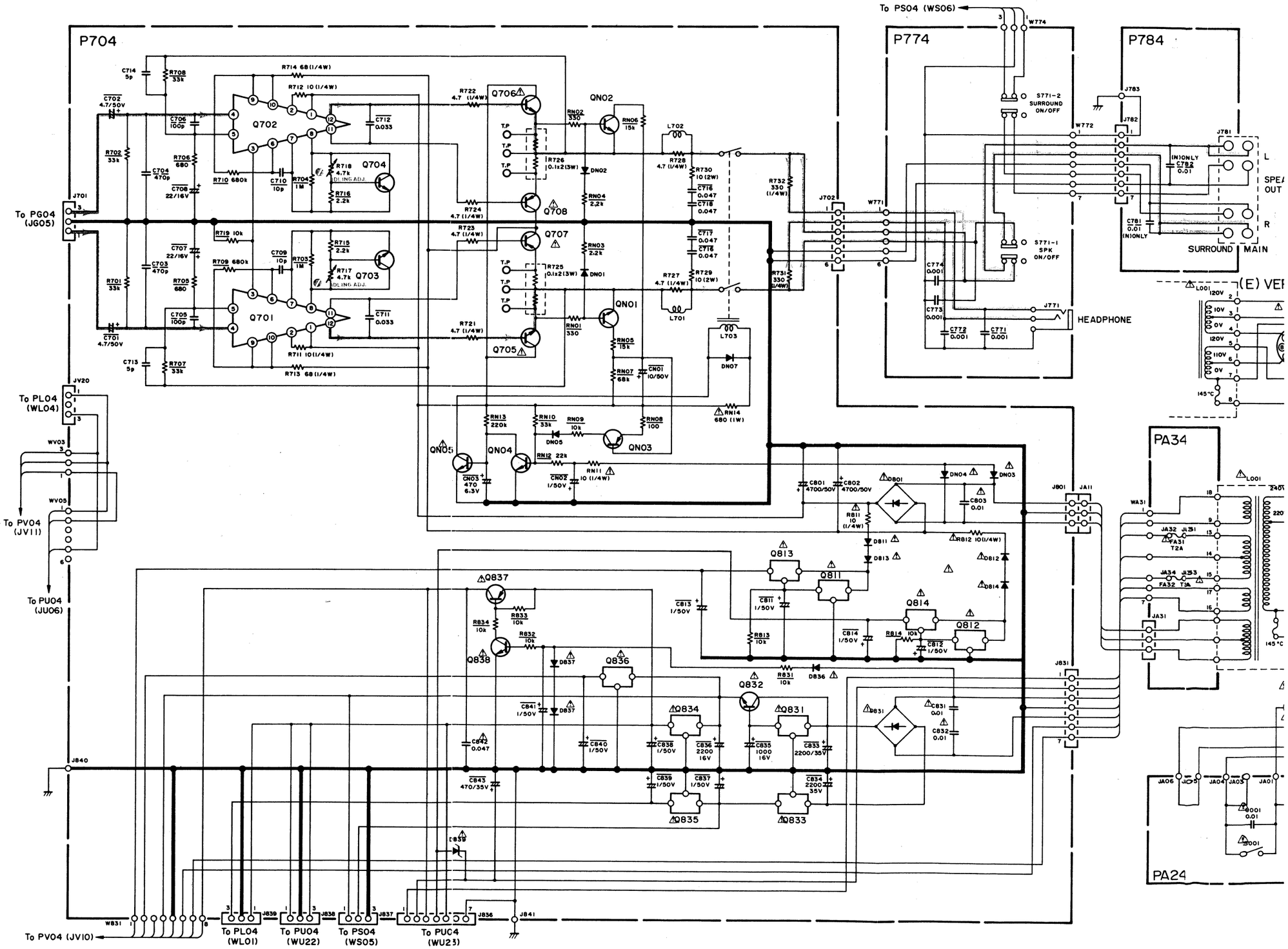


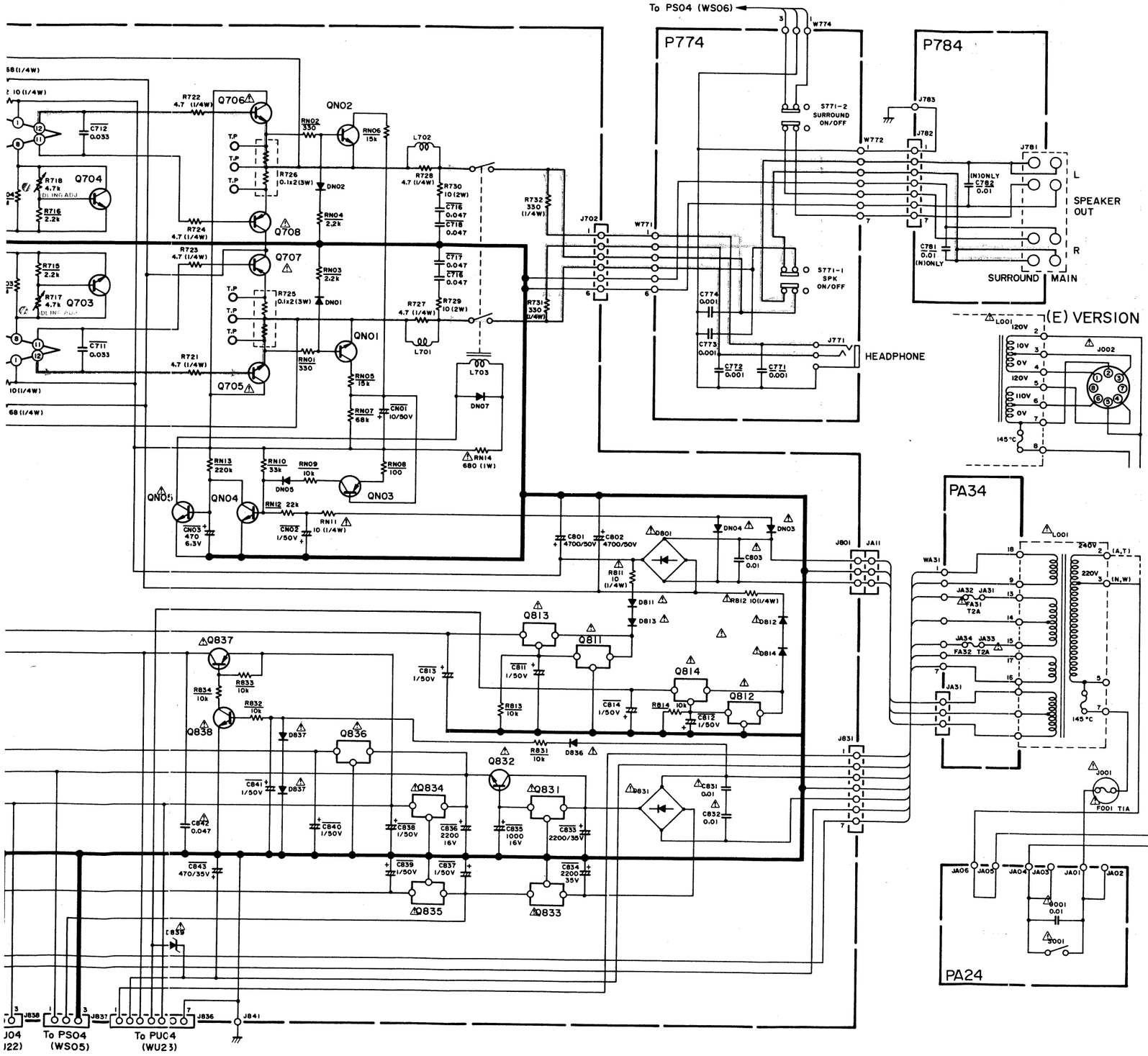
QU05



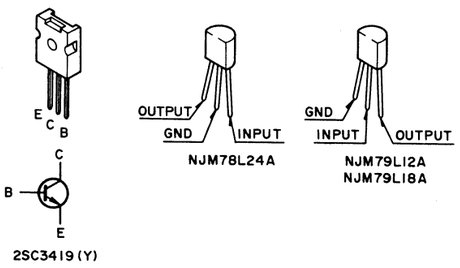
Q701, Q702

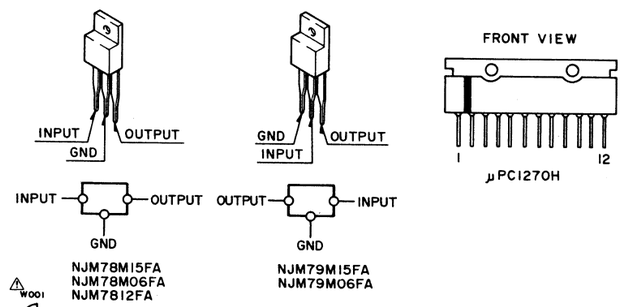


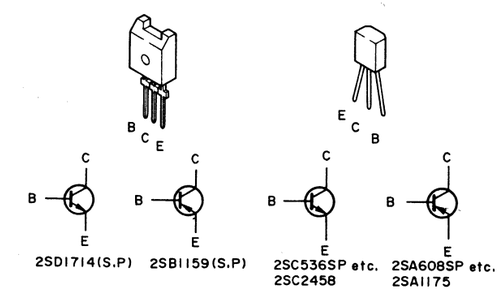

P704
P774
P784
PA34
PA24
To PS04 (WS06)
To PG04 (JG05)
To PL04 (WL04)
To PV04 (JV11)
To PU04 (JU06)
To PV04 (JV10)
To PL04 (WL01)
To PU04 (WU22)
To PS04 (WS05)
To PU04 (WU23)
S771-2 SURROUND ON/OFF
S771-1 SPK ON/OFF
HEADPHONE
SURROUND
MAIN
(E) VER
Q702
Q703
Q704
Q705
Q706
Q707
Q708
Q701
QN01
QN02
QN03
QN04
QN05
Q813
Q811
Q814
Q812
Q837
Q838
Q836
Q832
Q834
Q831
Q835
Q833
R714 68(1/4W)
R712 10(1/4W)
R711 10(1/4W)
R713 68(1/4W)
R722 4.7 (1/4W)
R724 4.7(1/4W)
R723 4.7 (1/4W)
R721 4.7 (1/4W)
R726 0.1x2(3W)
R725 0.1x2(3W)
R728 4.7(1/4W)
R727 4.7 (1/4W)
R730 10 (2W)
R729 10 (2W)
R732 330 (1/4W)
R731 330 (1/4W)
RN11 10 (1/4W)
R811 10 (1/4W)
R812 10(1/4W)
R714 68(1/4W)
R831 10k
R832 10k
R833 10k
R834 10k
R813 10k
R814 10k
RN14 680 (1W)
L702
L701
L703
DN07
DN02
DN01
DN04
DN03
DB01
DB11
DB13
DB12
DB14
DB37
DB36
DB38
C801 4700/50V
C802 4700/50V
C803 0.01
C831 0.01
C832 0.01
C842 0.047
C843 470/35V
C841 1/50V
C840 1/50V
C838 1/50V
C836 2200 16V
C839 1/50V
C837 1/50V
C835 1000 16V
C833 2200/35V
C834 2200 35V
C811 1/50V
C813 1/50V
C814 1/50V
C812 1/50V
C717 0.047
C716 0.047
C718 0.047
C774 0.001
C773 0.001
C772 0.001
C771 0.001
C782 0.01 (N)ONLY
C781 0.01 (N)ONLY
J701
J771
J772
J773
J781
J782
J783
J801
JA11
J831
JA31
JA32
JA33
JA34
J840
J841
J839
J838
J837
J836
JV20
WV03
WV05
W771
W772
W774
W831
WA31
FA31 T2A
FA32 T3A
145°C



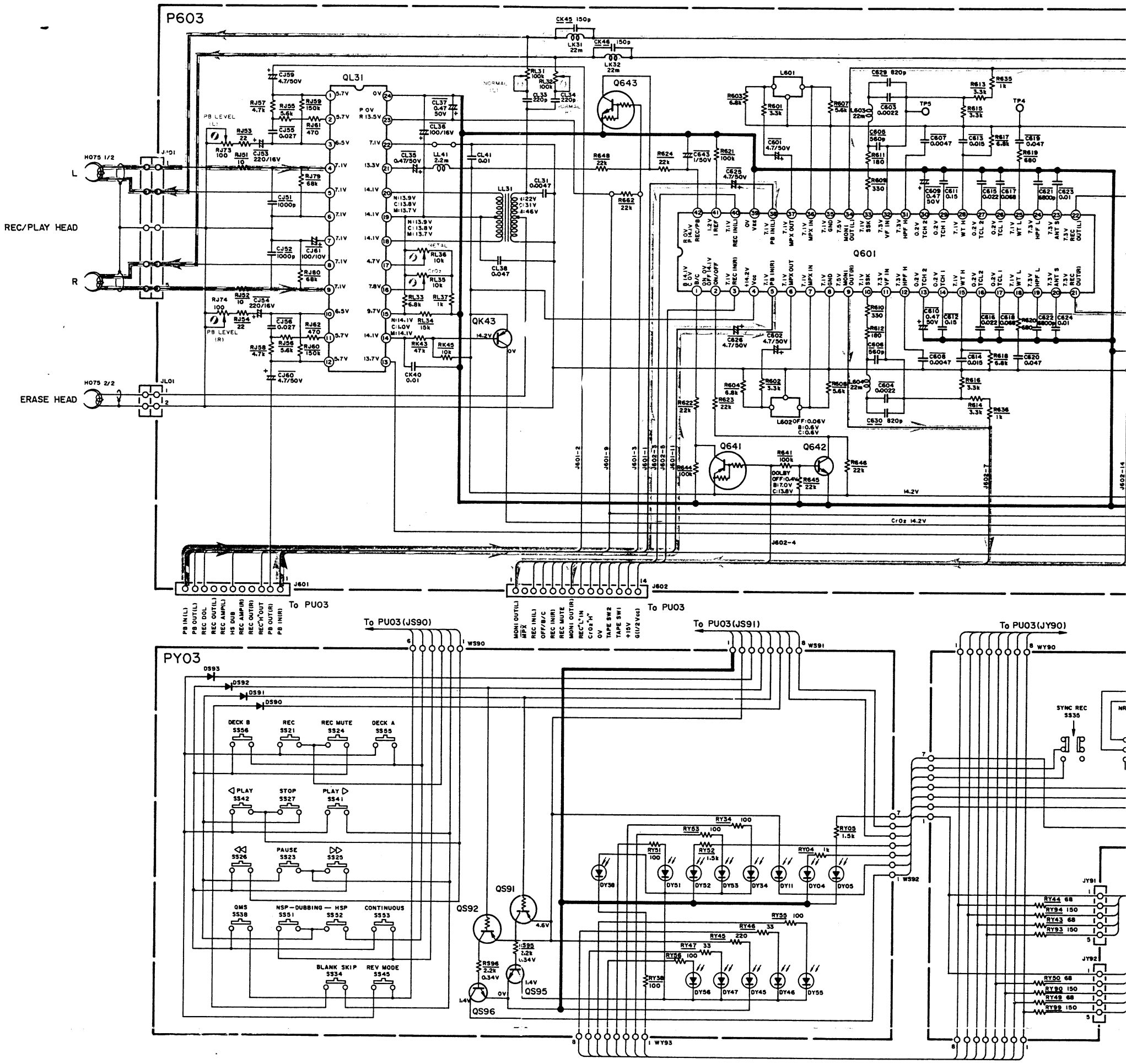
Q701,Q702	D801	Q811
μPC-1270H-V	S4VB-20	NJM78L24A
Q703,Q704	D811~D818,D832~D838 DN03,DN04,DN07	Q812
2SC3419 (Y)	S5688G	NJM79L18A
Q705,Q706,Q832	D819	Q814
2SD1714 (S.P)	16V ZENER	NJM79L12A
Q707,Q708	D820,D821	D839
2SB1159 (S.P)	15V ZENER	MTZJ10C
Q831	D831	QN05
NJM78M15FA	S2VB	2SC2458
Q833	DN01,DN02,DN05	Q837
NJM79M15FA	1SS133 etc.	2SA1175
Q834,Q813		
NJM78M06FA		
Q835		
NJM79M06FA		
Q836		
NJM7812FA		
QN03		
2SA608SP etc.		
Q838,QN01,QN02 QN04		
2SC536SP etc.		







3. SCHEMATIC DIAGRAM



NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

Components and wiring are subject to change for modification without notice.

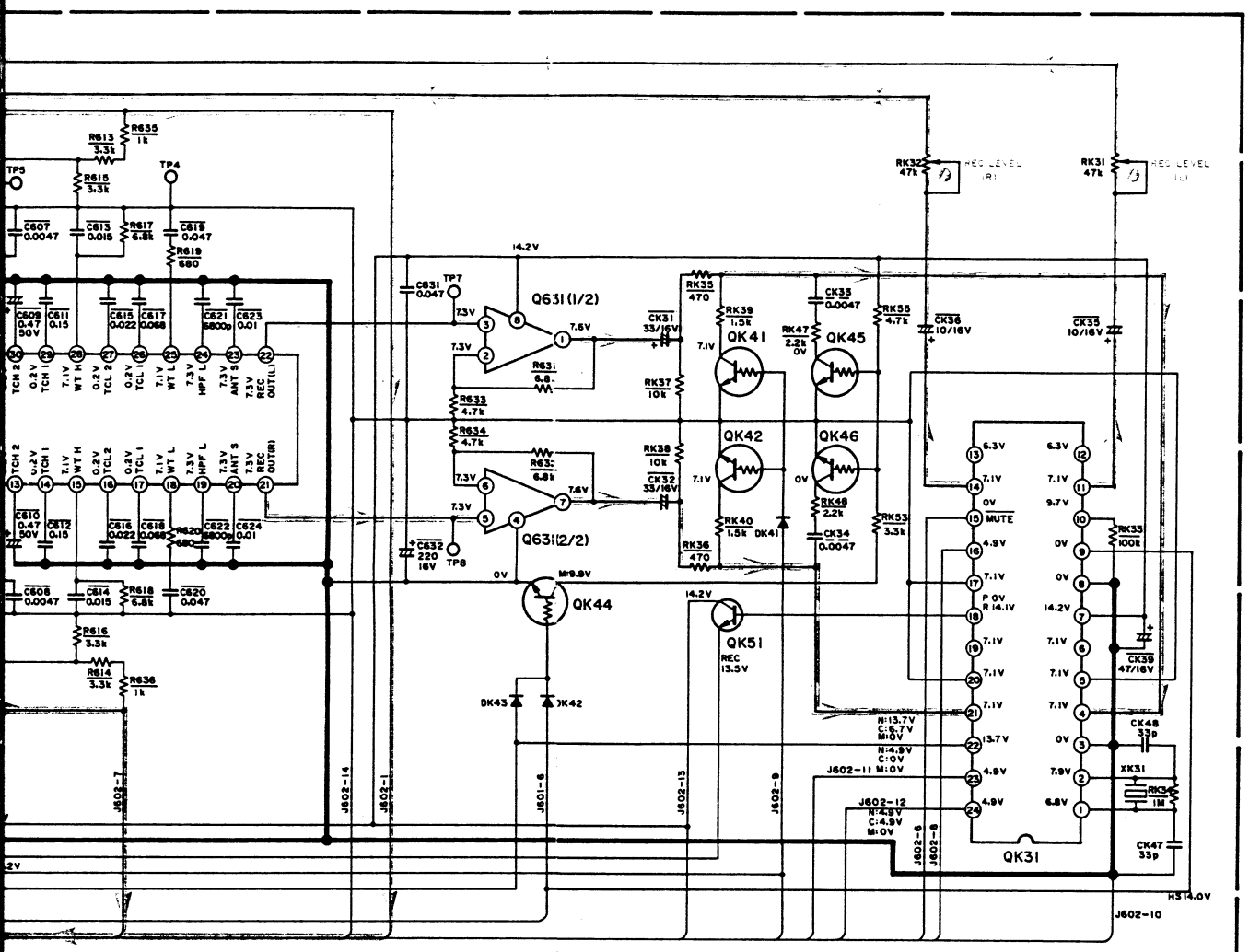
"SERVICE I
ANY MISAD
REPAIR BY

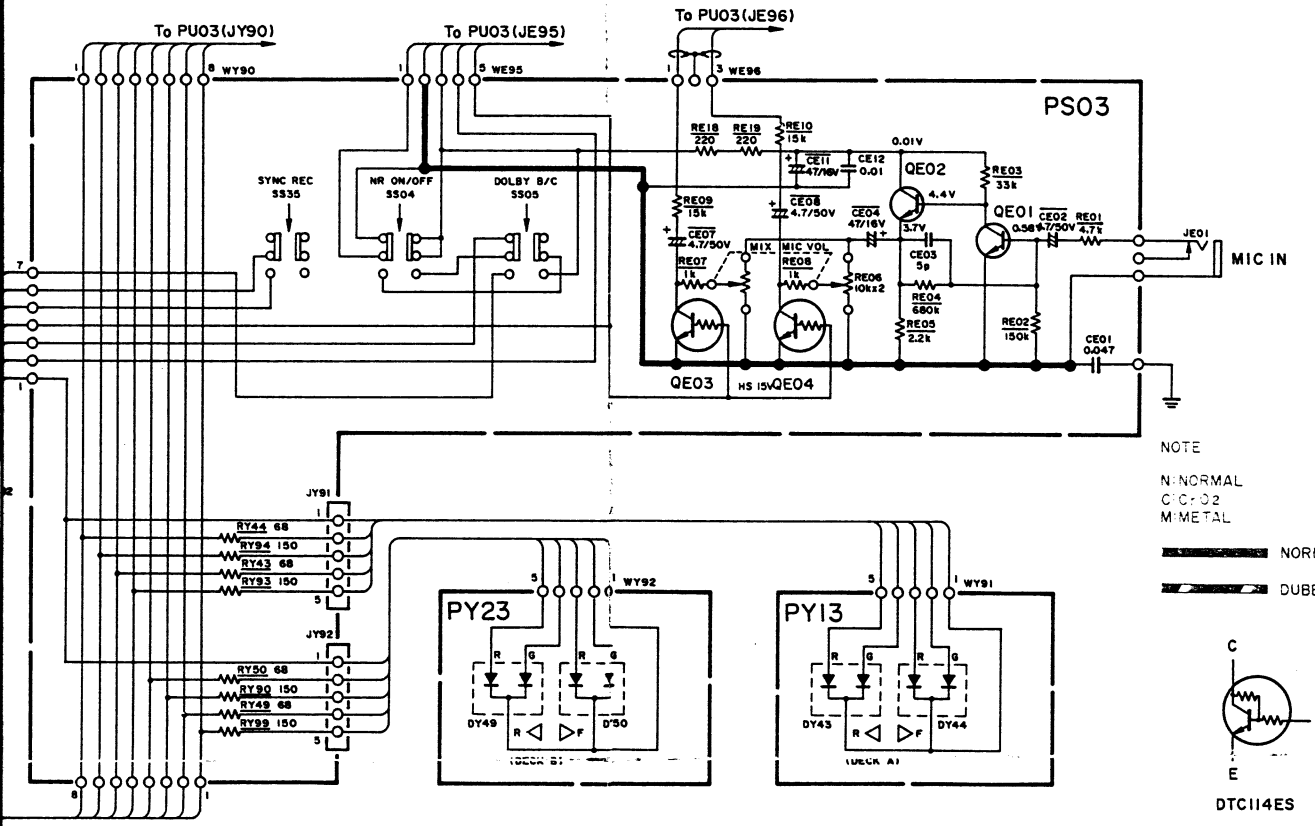
RE

R*** (1) GI
R*** (2) GI

C*** : **CE**
(1) DI

C*** : **CE**
(1) DK





NOTE

N: NORMAL
C: CUE
M: METAL

NORMAL PLAY(2) SIGNAL

DUBBING (2) SIGNAL

Q601

CX20187

Q631

NJM4558D

QK43

2SA608SP,etc.

Q642,QE01,QE02
QK51

2SC536SP,etc.

QK31

TDD1601

QS95,QS96

2SC1741(Q,R)

DK41~DK43
DS90~DS93

ISS133,etc.

DY05,DY34,DY38
DY45~DY47,DY51~DY53
DY55,DY56

LT3D8B

DY43,DY44,DY49,DY50

DUAL COLOR LED(GR,RED)

Q643

DTC114ES

QL31
HC10004490
TDA1600

QE03,QE04,QK41
QK42,QK44~QK46

DTC114TS

QS91,QS92

DTA114S

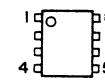
Q641

DTA144ES

DY04,DY11

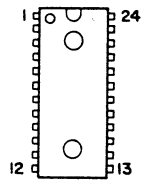
LT3G8B

TOP VIEW



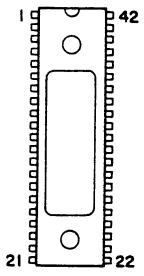
NJM4558D

TOP VIEW



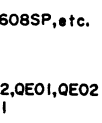
TDA1600
TDD1601

TOP VIEW

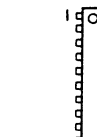


CX20187

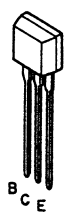
2SC1741(Q,R)

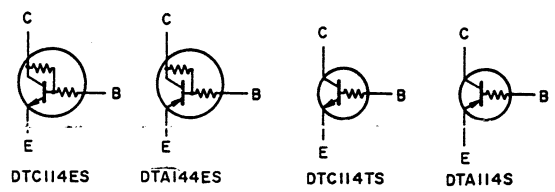


2SC536SP,etc.



2SA608SP,etc.





DTC114ES DTA144ES DTC114TS DTA114S

M.Z 1963

"SERVICE INFORMATION IS FOR USE BY QUALIFIED PERSONNEL ONLY — ANY MISADJUSTMENT OR MISALIGNMENT MAY BE TREATED AS A NON-WARRANTY REPAIR BY ANY MARANTZ SERVICE CENTRE —"

Kind of Common Parts

RESISTOR

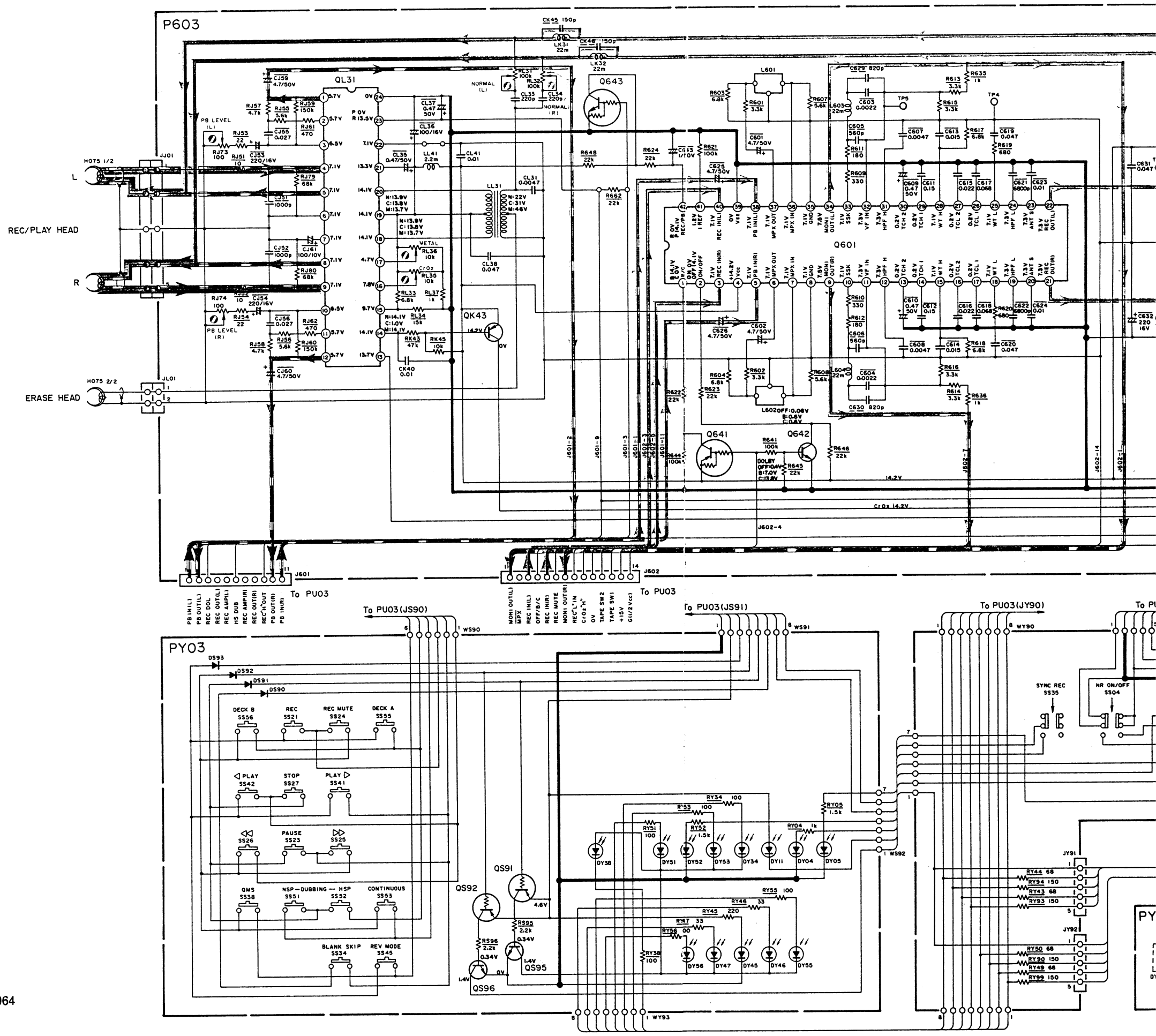
R*** (1) GD05 .... 140, Carbon film fixed resistor, ±5% 1/4W
R*** (2) GD05 .... 160, Carbon film fixed resistor, ±5% 1/6W

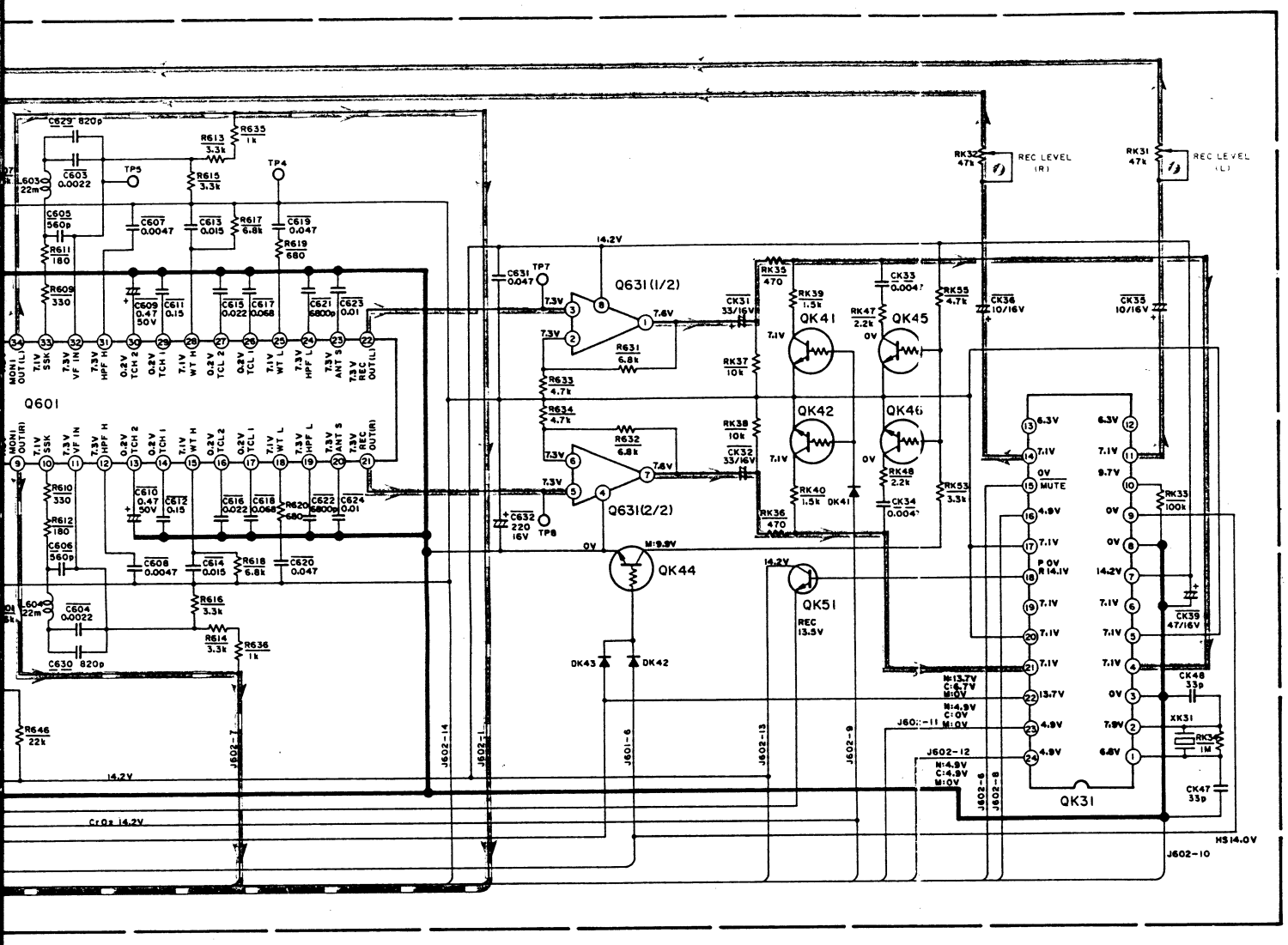
C*** : **CERAMIC CAP.**
(1) DD1 ..... 370, Ceramic condenser, disc type (titan condenser) Temp. coeff. P350 to N1000 50V

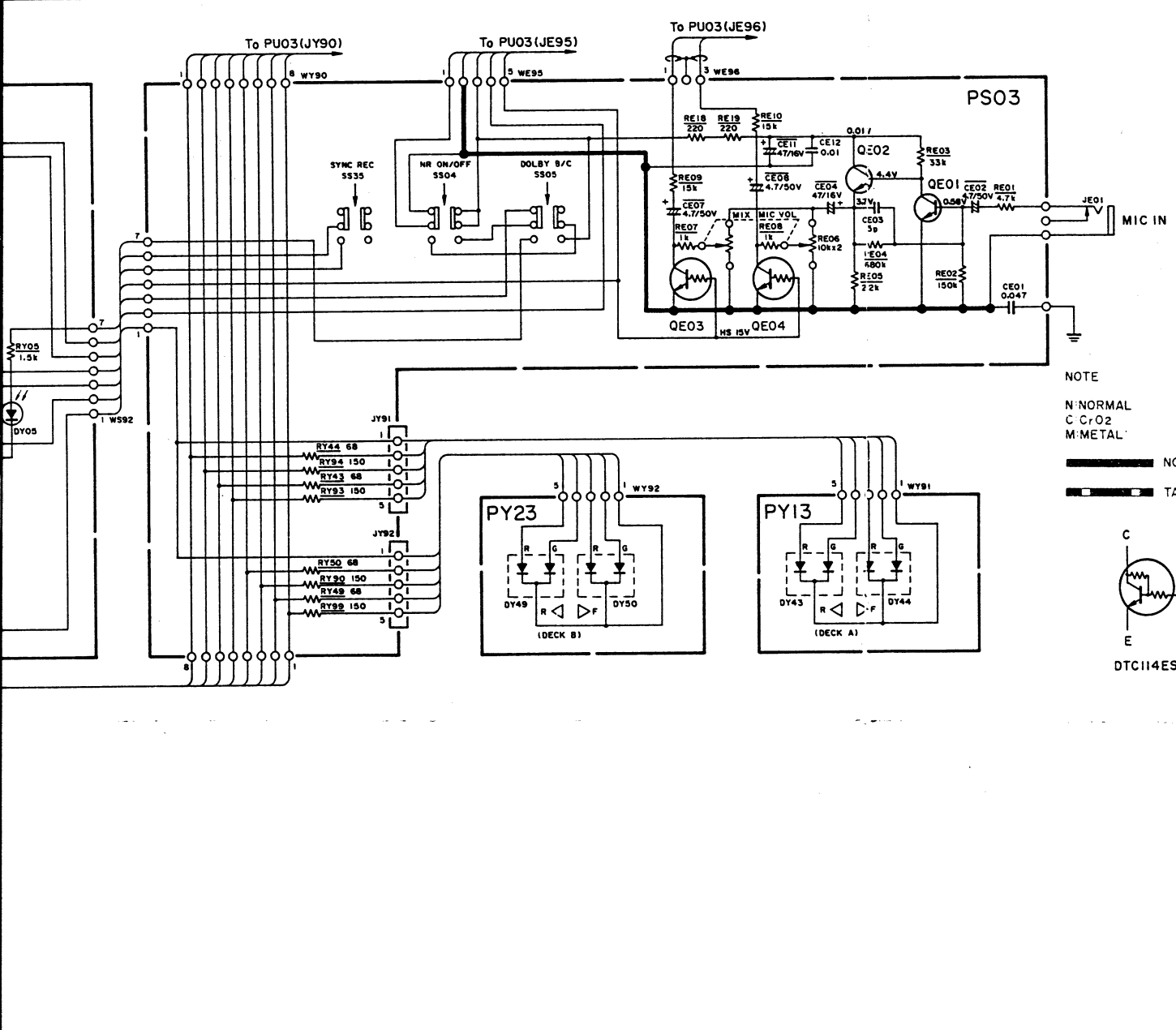
C*** : **CERAMIC CAP.**
(1) DK16 .... 300, High dielectric constant ceramic condenser, disc type (titan variable) Temp. chara. 2B4 50V

C*** : **ELECTROLY CAP. (⫫)/FILM CAP. (⫪)**
(1) EA ..... 10, Electrolytic condenser, one-way lead type, tolerance ±20%
(2) DF15 .... 350, Plastic film condenser, one-way type, Mylar, ±5% 50V

* In case of ordering the common parts, please establish the correct parts number of 10 figures by the procedure "ASSIGNMENT OF COMMON PARTS CODES"


P603
QL31
Q643
Q601
Q641
Q642
QK43
QS91
QS92
QS95
QS96
LL31
LL41
L601
L602
L603
L604
JJ01
JL01
HO75 1/2
HO75 2/2
L
R
REC/PLAY HEAD
ERASE HEAD
PB LEVEL (L)
PB LEVEL (R)
NORMAL (L)
NORMAL (R)
METAL
CrO2
J601
J602
To PU03
To PU03(JS90)
To PU03(JS91)
To PU03(JY90)
PB IN(L)
PB OUT(L)
REC DOL
REC OUT(L)
REC AMP(L)
HS DUB
REC AMP(R)
REC OUT(R)
REC"H"OUT
PB OUT(R)
PB IN(R)
MONI OUT(L)
MPX
REC IN(L)
OFF/B/C
REC IN(R)
REC MUTE
MONI OUT(R)
REC"L"IN
CrO2"H"
0V
TAPE SW2
TAPE SW1
+15V
G(1/2 Vcc)
PY03
DS93
DS92
DS91
DS90
DECK B SS56
REC SS21
REC MUTE SS24
DECK A SS55
PLAY SS42
STOP SS27
PLAY SS41
PAUSE SS23
SS26
SS25
QMS SS38
NSP—DUBBING—HSP SS51 SS52
CONTINUOUS SS53
BLANK SKIP SS34
REV MODE SS45
SYNC REC SS35
NR ON/OFF SS04
WS90
WS91
WS92
WY90
WY93
JY91
JY92
J601-2
J601-9
J601-3
J601-1
J602-3
J602-11
J602-10
J602-5
J602-6
J602-7
J602-4
J602-14
J602-1
CK45 150p
CK46 150p
LK31 22m
LK32 22m
CK40 0.01
CL38 0.047
CL41 0.01
R648 22k
R624 22k
R662 22k
R622 22k
R623 22k
R646 22k
14.2V
CrOx 14.2V





NOTE

N:NORMAL
C:Cr02
M:METAL

NORMAL REC(2) SIGNAL

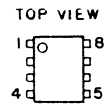
TAPE-B PLAY (2) SIGNAL

Q601

CX20187

Q631

NJM4558D



QK43

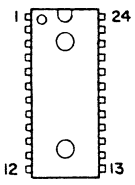
2SA608SP,etc.

Q642,QE01,QE02
QK51

2SC536SP,etc.

QK31

TDD1601



QS95,QS96

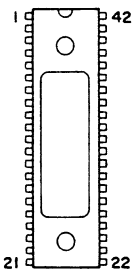
2SC1741(Q,R)

DK41~DK43
DS90~DS93

1SS133,etc.

DY05,DY34,DY38
DY45~DY47,DY51~DY53
DY55,DY56

LT3088



DY43,DY44,DY49,DY50

DUAL COLOR LED(GR,RED)

Q643

DTC114ES

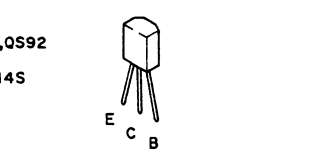
QL31
HC10004490
TDA1600

QE03,QE04,QK41
QK42,QK44~QK46

DTC114TS

QS91,QS92

DTA114S

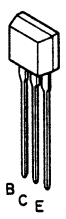


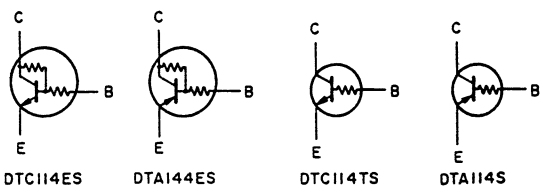
Q641

DTA144ES

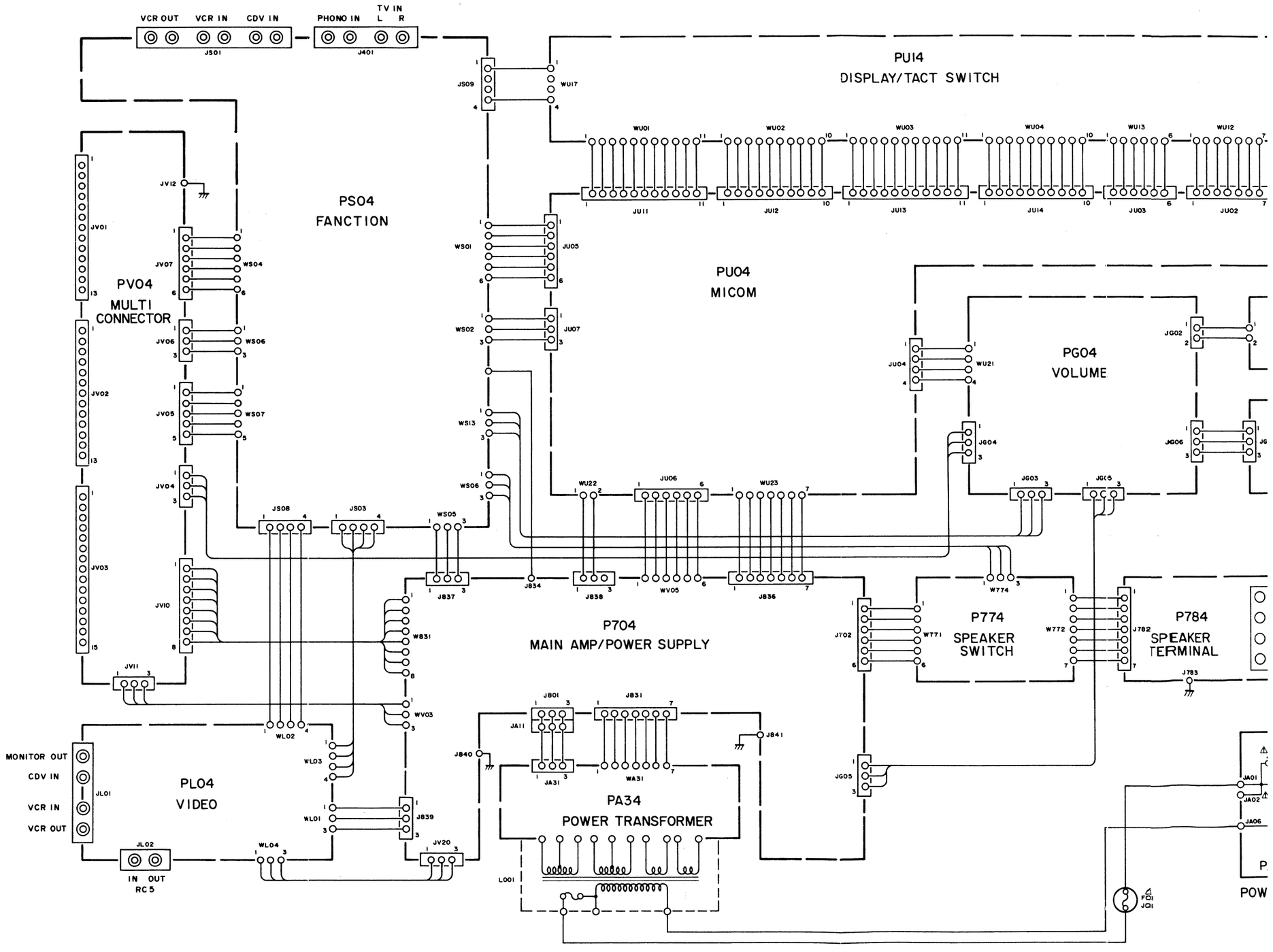
DY04,DY11

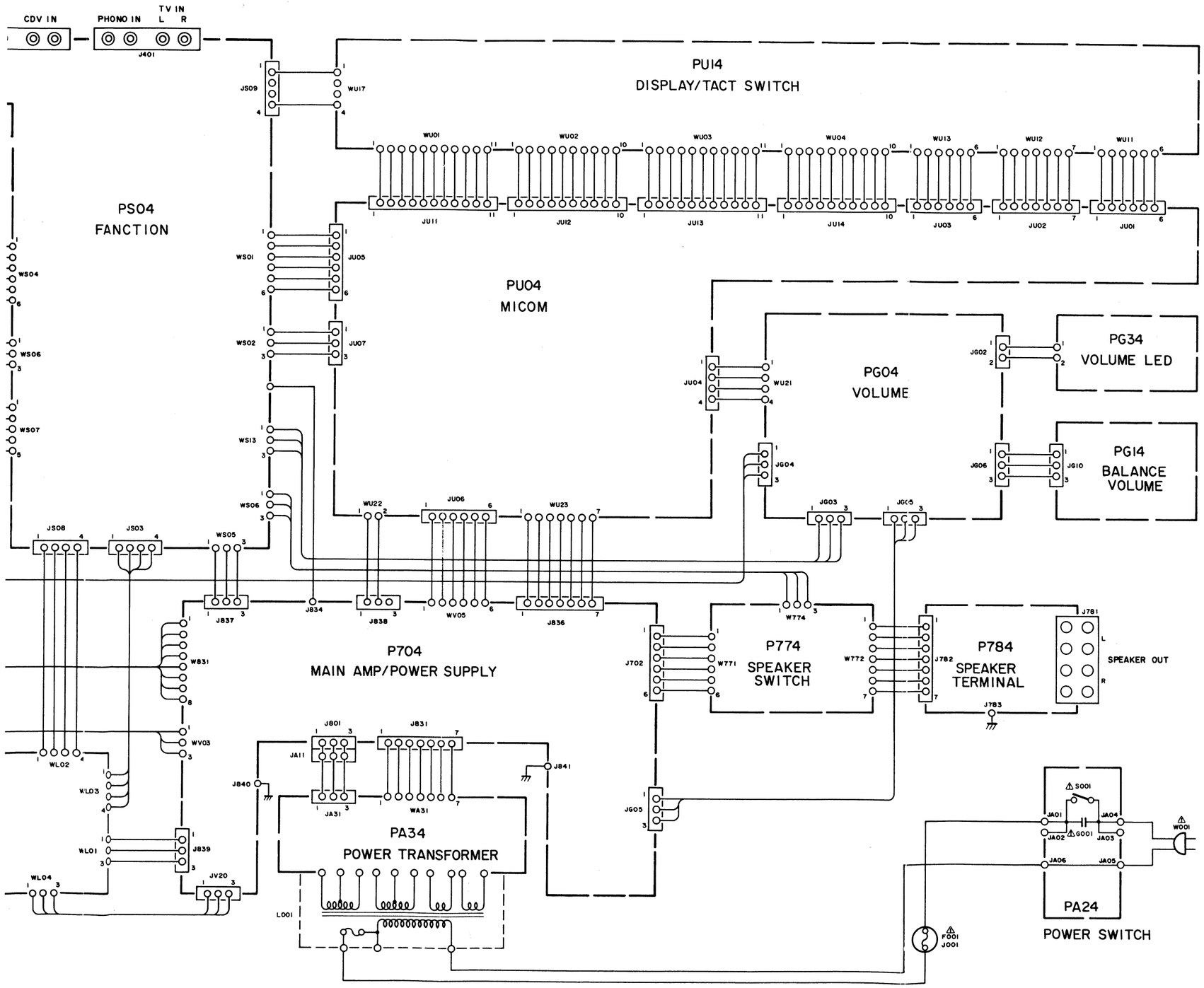
LT3G88





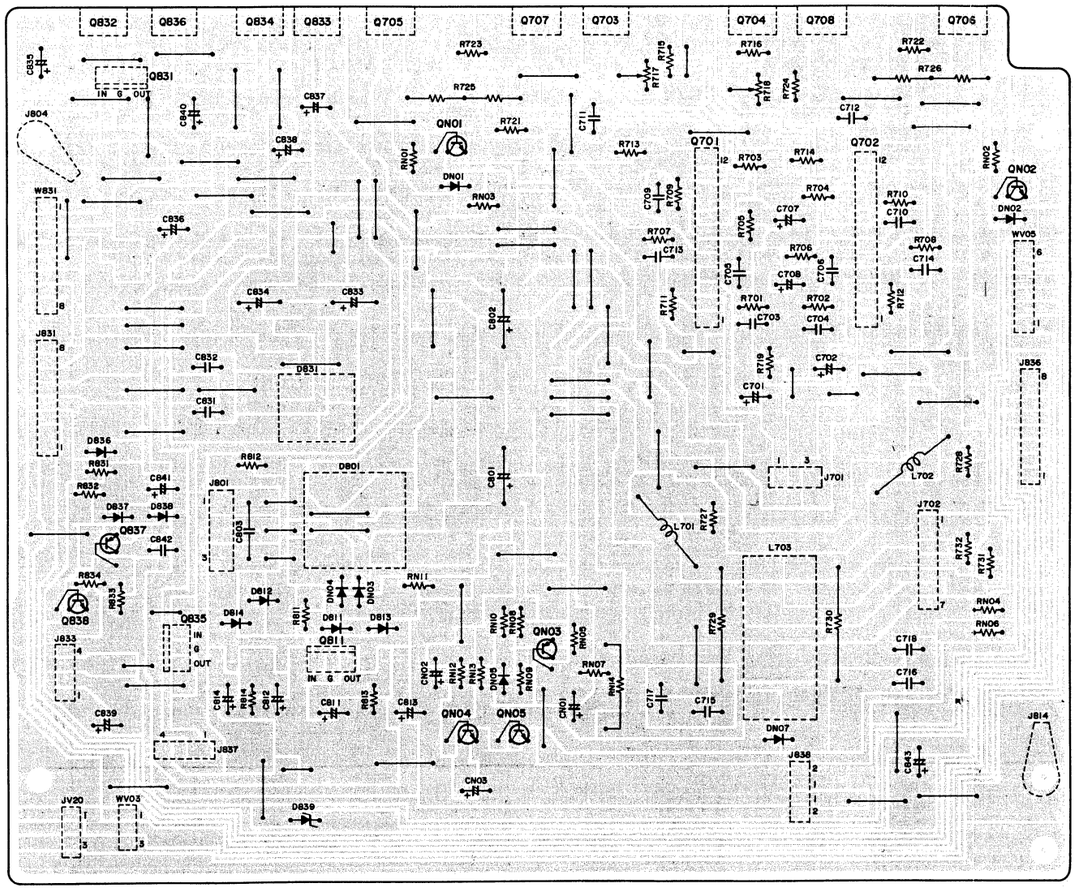
7. WIRING DIAGRAM



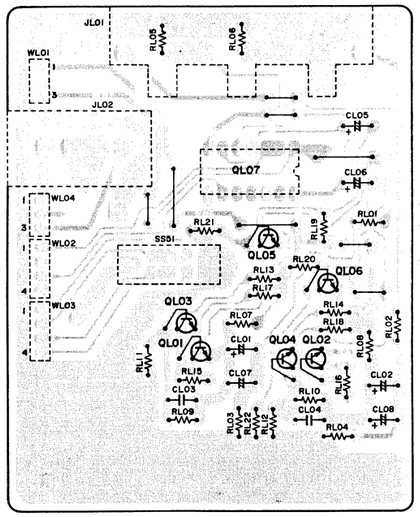

CDV IN
PHONO IN
TV IN
L R
J401
PU14
DISPLAY/TACT SWITCH
JS09
WU17
WU01
WU02
WU03
WU04
WU13
WU12
WU11
JU11
JU12
JU13
JU14
JU03
JU02
JU01
PS04
FANCTION
WS01
JU05
PU04
MICOM
WS02
JU07
WS13
WS06
WU22
JU06
WU23
JU04
WU21
PG04
VOLUME
JG04
JG02
PG34
VOLUME LED
JG06
JG10
PG14
BALANCE
VOLUME
JG03
JG05
WS04
WS06
WS07
JS08
JS03
WS05
J837
J834
J838
WV05
J836
W774
P704
MAIN AMP/POWER SUPPLY
J702
W771
P774
SPEAKER
SWITCH
W772
J782
P784
SPEAKER
TERMINAL
J781
L
R
SPEAKER OUT
J783
W831
WV03
WL02
WL03
WL01
WL04
J839
JV20
J801
J831
JA11
J840
J841
JA31
WA31
PA34
POWER TRANSFORMER
L001
J705
S001
JA01
JA04
JA02
G001
JA03
JA06
JA05
W001
PA24
POWER SWITCH
F001
J001

8. COMPONENT LOCATIONS

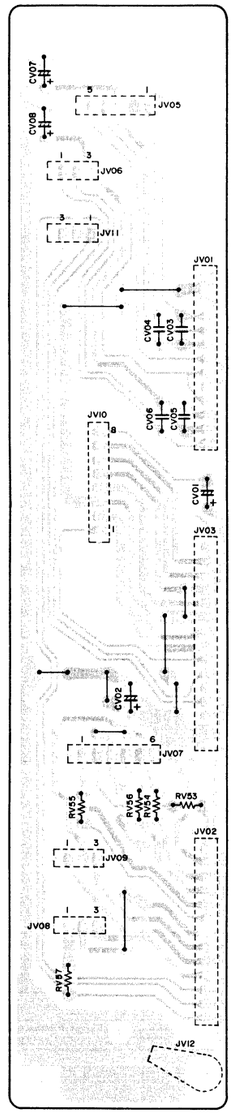
P704 MAIN/POWER SUPPLY



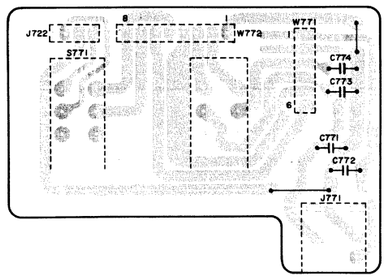
PL04 VIDEO AMP



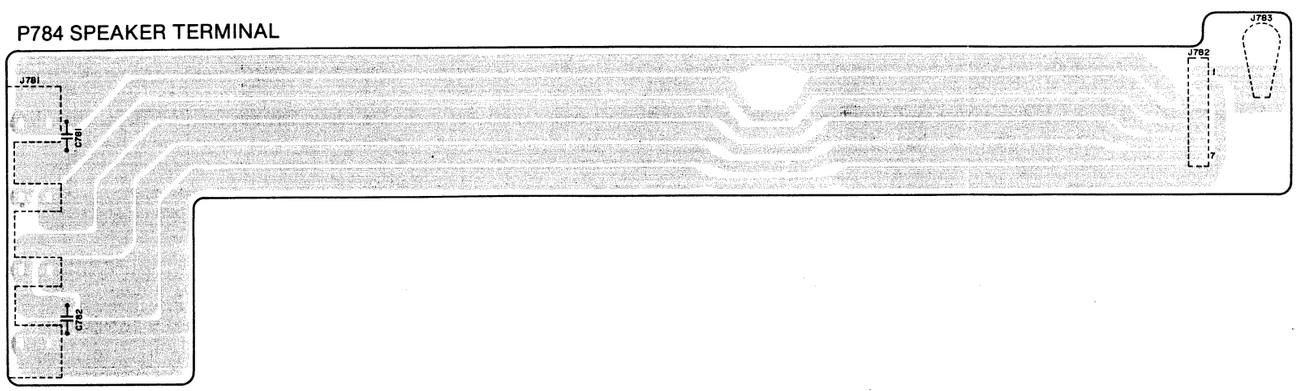
PV04 MULTI CONNECTOR



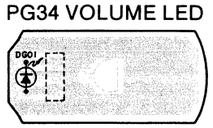
P774 SPEAKER SWITCH



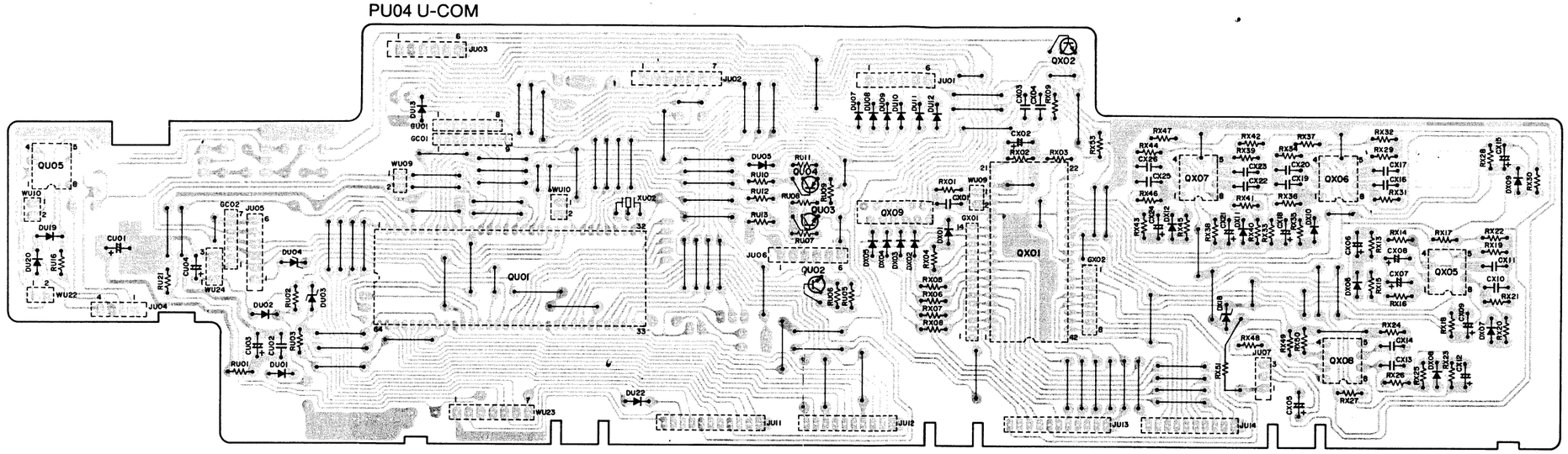
P784 SPEAKER TERMINAL



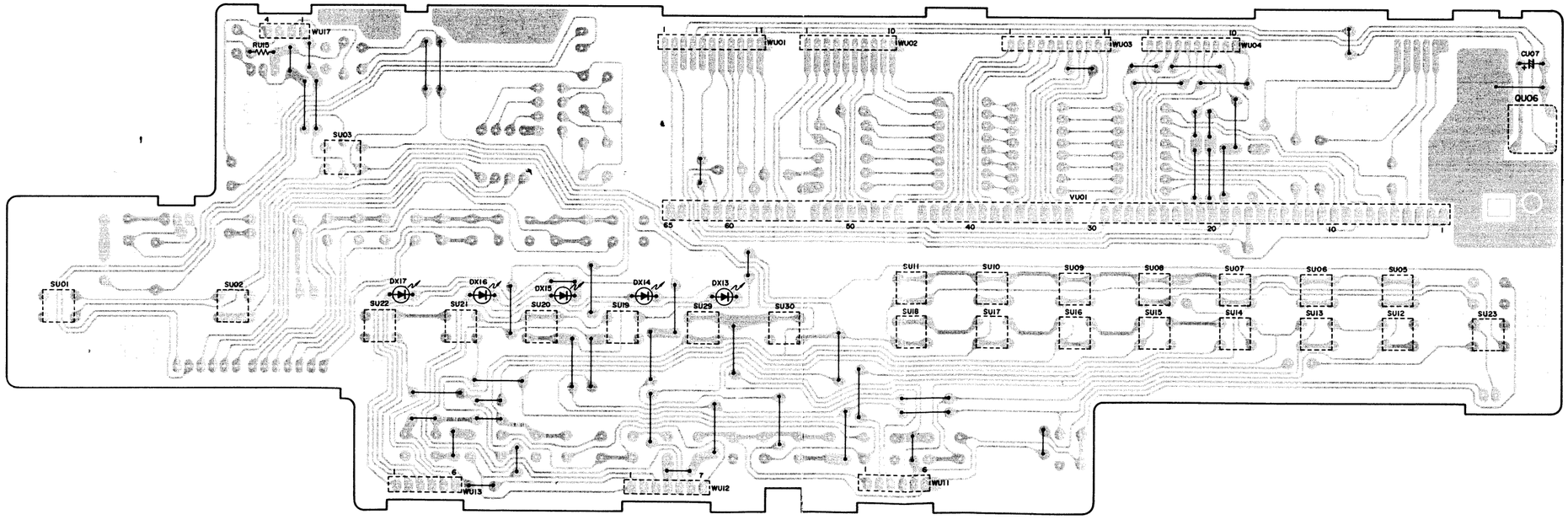
PG34 VOLUME LED



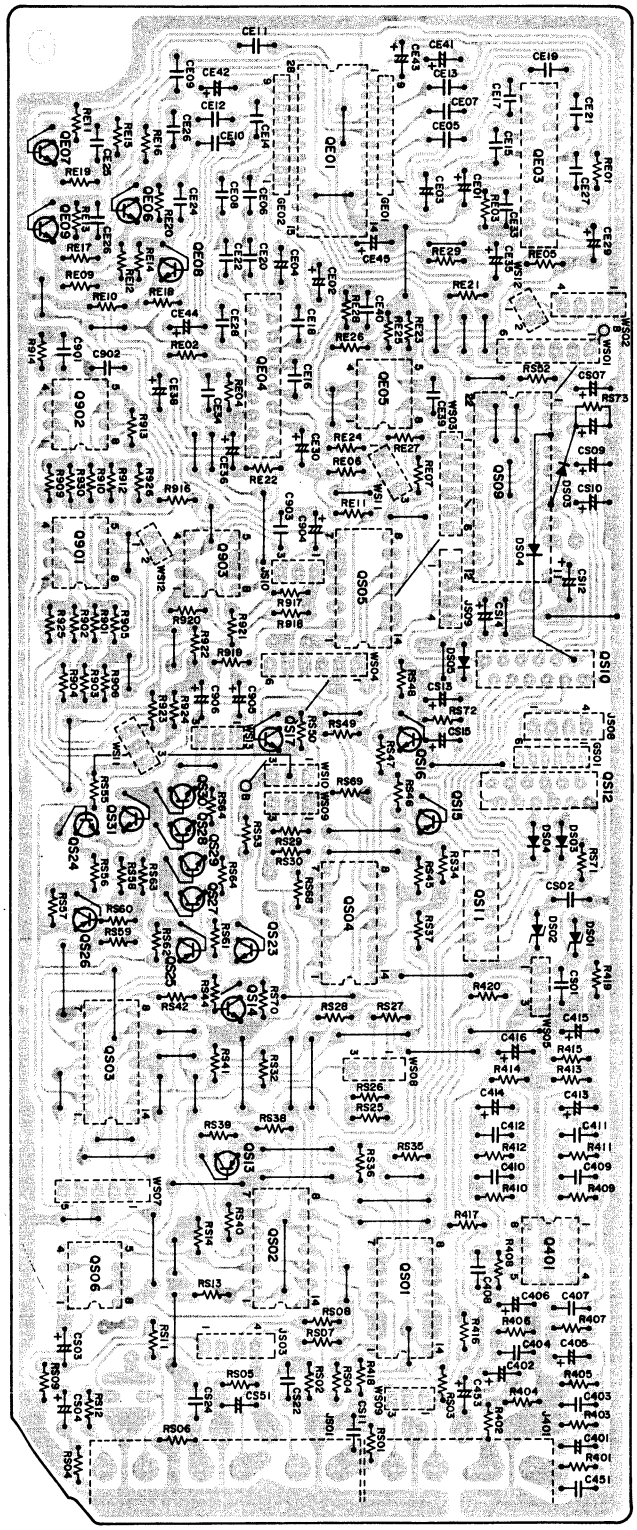
PU04 U-COM



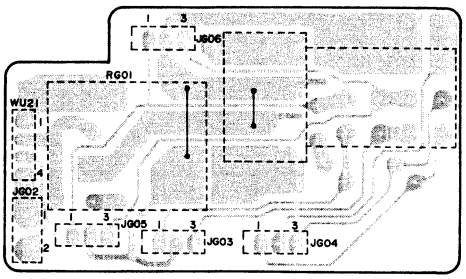
PU14 FIP TACT SWITCH



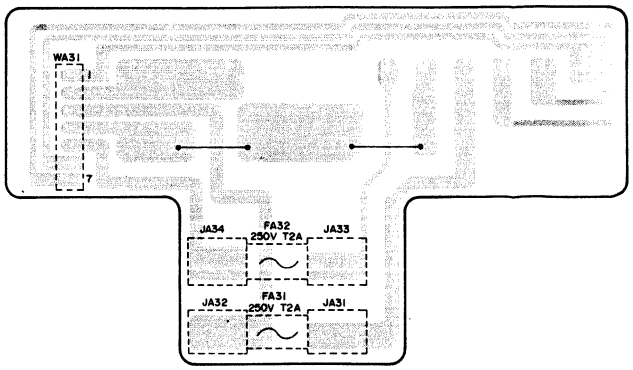
PS04 FUNCTION



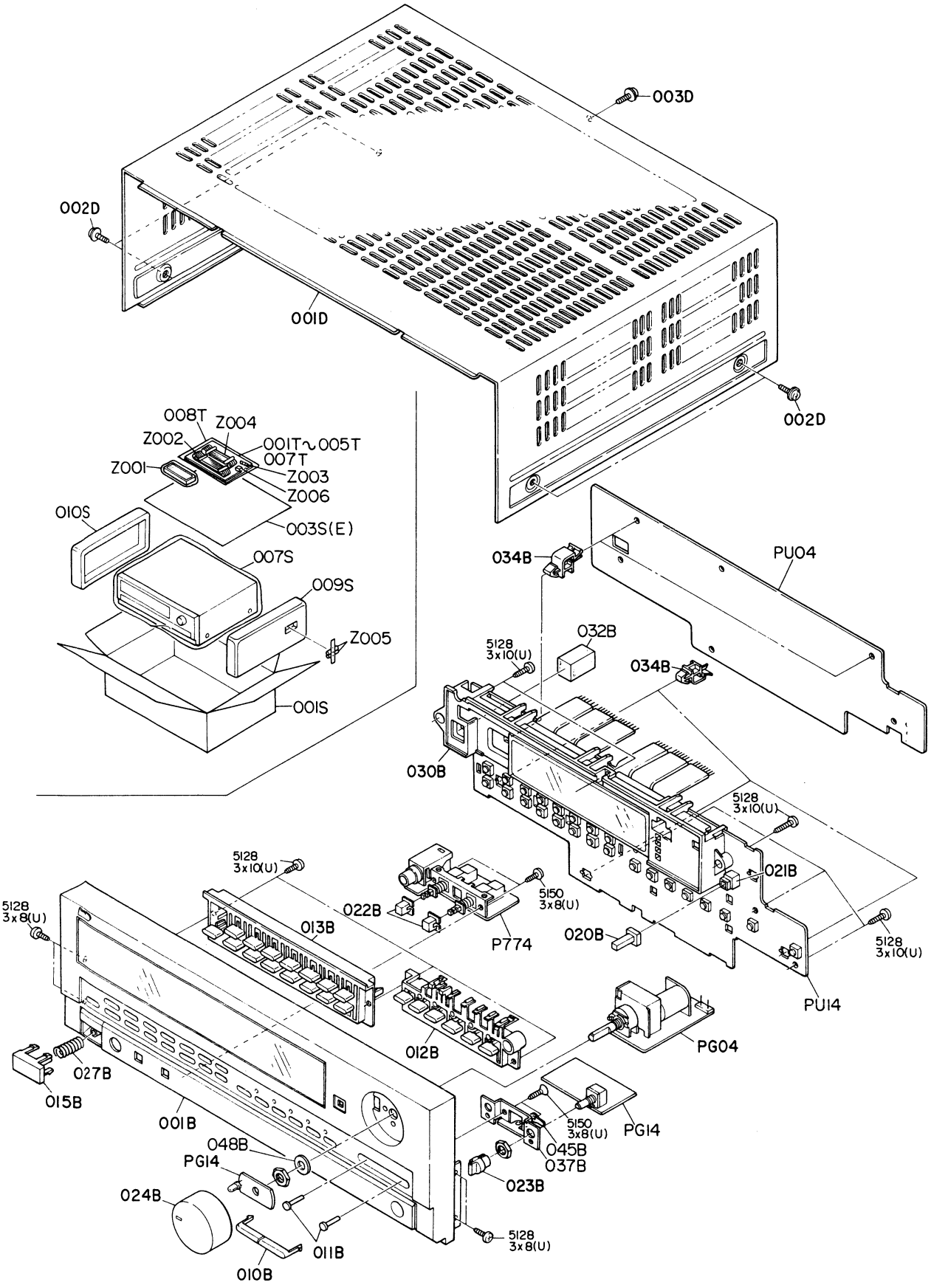
PG04 MOTOR VOLUME



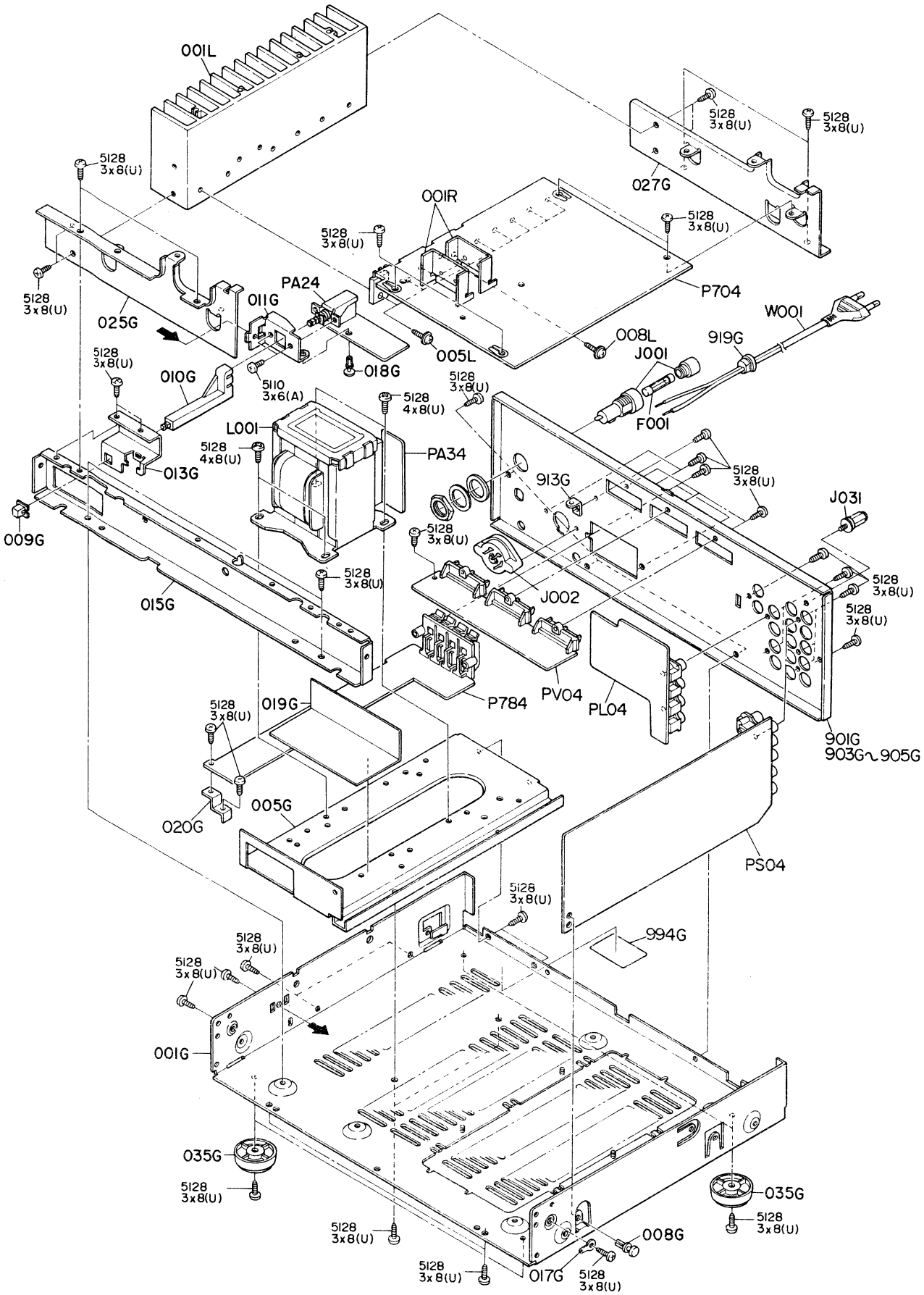
PA34 POWER TRANSF.



9. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 426 51298	Front Panel Assembly
010B	4822 410 25819	Button, Function
011B	4822 535 92497	Pin
012B	4822 410 26589	Button, Hinge; Memory
013B	4822 410 26591	Button, Hinge; EQ
015B	4822 410 26592	Button, Power
020B	4822 381 10895	Lens, Muting
021B	4822 532 51719	Bushing, Muting
022B	4822 410 26593	Button, Speaker Surround
023B	4822 412 20997	Knob, Balance
024B	4822 413 41465	Knob [K]
027B	4822 492 52016	Spring, Power Button
030B	4822 256 91327	Holder, FL
032B	4822 466 61642	Spacer
034B	4822 402 61143	Holder
037B	4822 404 20984	Bracket, Volume
045B	4822 323 10103	Lug
048B	4822 532 11664	Collar
001D	4822 426 40389	Lid, Top Cover
002D	4822 502 12355	B.T. Screw B3 x 8
003D	4822 502 12355	B.T. Screw B3 x 8
		PACKING
009S	4822 600 70473	Cushion, Right
010S	4822 600 70545	Cushion, Left
001T	4822 736 13993	User Manual
008T	4822 600 70363	Polyethylene Bag
Z001	4822 218 10227	Unit K, RC-53
Z003	4822 253 30025	Fuse T2.0A [E]
Z005	4822 138 10155	Battery, SUM-3
Z006	4822 265 10092	Jack, AC Adaptor [E]


001L
5128 3x8(U)
027G
001R
P704
025G
011G
PA24
005L
018G
008L
919G
W001
J001
F001
010G
5110 3x6(A)
5128 4x8(U)
L001
PA34
013G
009G
913G
J031
015G
J002
P784
PV04
PL04
019G
020G
005G
901G
903G~905G
PS04
994G
001G
035G
008G
017G

REF. DESIG.	PART NO.	DESCRIPTION
005G	4822 404 20985	Bracket Transformer
008G	4822 530 80277	Clamper
009G	4822 410 26593	Button, Power Spacer
010G	4822 278 80217	Link, Power Switch
017G	4822 323 10103	Lug
018G	4822 530 80277	Clamper
020G	4822 404 20806	Bracket
034G	4822 462 41271	Leg, Front
035G	4822 462 41186	Leg Rear
901G	4822 435 20086	Rear Panel [N]
903G	4822 426 20171	Rear Panel [A]
905G	4822 435 20085	Rear Panel [E]
919G	4822 532 51314	Bushing, AC Cord
994G	4822 600 70229	Label, Caution
005L	4822 502 12161	Fain Neck B.T. Screw M3 x 12
008L	4822 502 12161	Fain Neck B.T. Screw M3 x 12
001R	4822 255 40874	Heatsink
⚠ F001	4822 253 30021	Fuse 4A 250V
⚠ J001	4822 256 30233	Jack, Fuse Holder
⚠ J002	4822 272 10227	Voltage Selector [E]
⚠ J031	4822 290 40297	Terminal GND
⚠ L001	4822 146 21343	Power Transformer [E]
	4822 146 21348	Power Transformer [N, A, W]
⚠ W001	4822 321 10428	A.C. Power Cord [N, W]
	4822 321 10429	A.C. Power Cord [E]

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05---140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05---160, Carbon film fixed resistor, ±5%, 1/6W

① — Resistance value

Examples

① Resistance value

0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
1Ω...010	100Ω...101	10kΩ...103	1MkΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MkΩ...475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C***: CERAMIC CAP.

(1) DD1---370, Ceramic condenser
①② Disc type
Temp. coeff. P350 ~ N1000, 50V
Capacity value
Tolerance

Examples

① Tolerance (Capacity deviation)
±0.25pF...0
±0.5pF...1
±5%...5

* Tolerance of COMMON PARTS handled here are as follows:
0.5pF~ 5pF...±0.25pF
6pF~ 10pF...±0.5pF
12pF~ 560pF...±5%

② Capacity value

0.5pF...005	3pF...030	100pF...101
1pF...010	10pF...100	220pF...221
1.5pF...015	47pF...470	560pF...561

C***: CERAMIC CAP.

(1) DK16---300, High dielectric constant ceramic condenser
① Disc type
Temp. chara. 2B4, 50V
Capacity value

Example

② Capacity value

100pF...101	1000pF...102	10000pF...103
470pF...471	2200pF...222	

C***: ELECTROLY CAP. (⧧), FILM CAP. (⧦)

(1) EA------10, Electrolytic condenser
①② One-way lead type, Tolerance ±20%
Dielectric strength
Capacity value

Examples

① Capacity value

0.1μF...104	4.7μF...475	100μF...107
0.33μF...334	10μF...106	330μF...337
1μF...105	22μF...226	1100μF...108
		2200μF...228

② Working voltage

6.3V...006	25V...025
10V...010	35V...035
16V...016	50V...050

(2) DF15---350, Plastic film condenser
① One-way type, Mylar ±5% 50V
Capacity value

Examples

① Capacity value

0.001μF (1000pF)...102	0.1μF...104
0.0018μF.....182	0.56μF...564
0.01μF.....103	1μF...105
0.015μF.....153	

10. ELECTRICAL PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
		PA24-POWER SWITCH CIRCUIT BOARD
⚠G001	4822 122 33276	Ceramic 0.01μF, Spark Killer
⚠S001	4822 276 11654	Push Switch Power
JA01 ~ JA06	4822 265 10158	Plug
		PA34-POWER TRANSFORMER CIRCUIT BOARD
⚠L001	4822 146 21343	Power Transformer [E]
	4822 146 21348	Power Transformer [N, A, W]
⚠FA31	4822 253 30025	Fuse T2.0A 250V
⚠FA32	4822 253 30025	Fuse T2.0A 250V
JA11	4822 265 10093	Jack, 3P
JA31	4822 267 70978	Jack, Fuse Clip
JA32	4822 256 30329	Jack, Fuse Clip
JA33	4822 267 70978	Jack, Fuse Clip
JA34	4822 256 30329	Jack, Fuse Clip
		PG04-MOTOR VR CIRCUIT BOARD
RG01	4822 101 30569	Variable Resistor, Motor
JG02	4822 265 10158	Plug, 2P
JG03	4822 265 10062	Jack, 3P
JG04	4822 265 10062	Jack, 3P
		PG14-BALANCE VOLUME CIRCUIT BOARD
RG10	4822 101 30568	Variable Resistor 100KΩ(B) Balance
JG10	4822 265 10062	Jack, 3P
		PG34-VOLUME LED CIRCUIT BOARD
DG01	4822 130 80326	L.E.D. LT3D8B
		PL04-VIDEO AMP CIRCUIT BOARD
QL01 ~ QL06	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QL07	4822 209 83067	IC LC4066
JL01	4822 266 30314	Terminal, 4P
JL02	4822 266 30236	Terminal, 2P
SS51	4822 277 21146	Slide Switch, Mono/Stereo
WL01	4822 323 10074	Jumper Lead, 3P
WL02	4822 323 10112	Jumper Lead, 4P
WL03	4822 323 10087	Jumper Lead, 4P
WL04	4822 323 10076	Jumper Lead, 3P

REF. DESIG.	PART NO.	DESCRIPTION
		PS04-FUNCTION CIRCUIT BOARD
		PS04-CAPACITORS
CS01	4822 122 40306	Ceramic 0.047μF +80% −20%
CS02	4822 122 40306	Ceramic 0.047μF +80% −20%
		PS04-RESISTORS
GS01	4822 111 91401	22KΩx5, Array
GE01	4822 111 91644	100KΩx9, Array
GE02	4822 111 91644	100KΩx9, Array
		PS04-SEMICONDUCTORS
DS01	4822 130 80319	Zener 9.1V
DS02	4822 130 80319	Zener 9.1V
DS03	4822 130 33305	Diode 1SS133, etc.
DS04	4822 130 33305	Diode 1SS133, etc.
DS05	4822 130 33305	Diode 1SS133, etc.
DS07	4822 130 33305	Diode 1SS133, etc.
DS08	4822 130 33305	Diode 1SS133, etc.
QS01		
≀	4822 209 83804	IC LC4966
QS05		
QS06	4822 209 83631	IC NJM4558D-D
QS09	4822 209 83594	IC MSM59371RS
QS10	4822 209 71779	IC DT5C144E
QS11	4822 209 71778	IC DT5A144E
QS12	4822 209 71778	IC DT5A144E
QS13	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QS14	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS15	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QS16	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS17	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS23	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS24	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QS25	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QS26	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QS27	4822 130 43818	Transistor 2SC2878
QS28	4822 130 43818	Transistor 2SC2878
QS29	4822 130 43818	Transistor 2SC2878
QS30	4822 130 43818	Transistor 2SC2878
QE01	4822 209 71783	IC LC7522
QE03	4822 209 83338	IC BA3812L
QE04	4822 209 83338	IC BA3812L
QE05	4822 209 83631	IC NJM4558D-D
QE06	4822 130 42298	Transistors 2SC536SP(F, G), etc.
QE07	4822 130 42298	Transistors 2SC536SP(F, G), etc.
QE08	4822 130 42298	Transistors 2SC536SP(F, G), etc.
QE09	4822 130 42298	Transistors 2SC536SP(F, G), etc.
Q401	4822 209 83631	IC NJM4558D-D
Q901	4822 209 83631	IC NJM4558D-D
Q902	4822 209 83631	IC NJM4558D-D
Q903	4822 209 83631	IC NJM4558D-D
		PS04-MISCELLANEOUS
JS01	4822 265 30457	Terminal, 6P; RCA
JS03	4822 265 10105	Jack, 4P
JS08	4822 265 10105	Jack, 4P
JS09	4822 265 10105	Jack, 4P
J401	4822 265 30397	Terminal, 4P; RCA

REF. DESIG.	PART NO.	DESCRIPTION
WS01	4822 323 10198	Jumper Lead, 6P
WS02	4822 323 10281	Jumper Lead, 3P
WS04	4822 323 10099	Jumper Lead, 6P
WS05	4822 323 10106	Jumper Lead, 3P
WS06	4822 321 21896	Connective Cord, 3P
WS07	4822 323 10094	Jumper Lead, 5P
WS08	4822 323 10077	Jumper Lead, 3P
WS09	4822 323 10076	Jumper Lead, 3P
WS10	4822 323 10281	Jumper Lead, 3P
WS11	4822 323 10106	Jumper Lead, 3P
WS12	4822 323 10124	Jumper Lead, 2P
WS13	4822 323 10141	Jumper Lead, 3P
		PU04-U-COM CIRCUIT BOARD
		PU04-CAPACITORS
CU01	4822 124 22272	Elect 0.1μF, Super
CU02	4822 122 40306	Ceramic 0.047μF +80% −20%
CU10	4822 122 40306	Ceramic 0.047μF +80% −20%
CU11	4822 122 40491	Ceramic 0.022μF +80% −20%
CU12	4822 122 32832	Ceramic 1000pF +80% −20%
CU13	4822 122 32832	Ceramic 1000pF +80% −20%
GC01	4822 111 91393	Composite 1000pFx8
GC02	4822 111 91643	Composite 1000pFx6
		PU04-RESISTORS
RX51	4822 111 50474	330Ω ±5% 1W
GU01	4822 111 91398	100KΩx7, Array
GX01	4822 111 91397	100KΩx13, Array
GX02	4822 111 91398	100KΩx7, Array
		PU04-SEMICONDUCTORS
DU01	4822 130 33305	Diode 1SS133, etc.
DU02	4822 130 33305	Diode 1SS133, etc.
DU03	4822 130 80997	Zener MTZJ7.5V
DU04	4822 130 80132	Zener 3.9V
DU05		
≀	4822 130 33305	Diode 1SS133, etc.
DU13		
DU19	4822 130 80839	Diode S5668G
DU20	4822 130 80839	Diode S5668G
DU22	4822 130 33305	Diode 1SS133, etc.
DX01		
≀	4822 130 33305	Diode 1SS133, etc.
DX12		
DX18	4822 130 80317	Zener 5.1V
QU01	4822 209 73288	Microprosessor μPD-75208CW/G
QU02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QU03	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QU04	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QU05	4822 209 73287	IC LB1630
QX01	4822 209 71782	IC LC7565
QX02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QX05	4822 209 80401	IC NJM4558D
QX06	4822 209 80401	IC NJM4558D
QX07	4822 209 80401	IC NJM4558D
QX08	4822 209 80401	IC NJM4558D
QX09	4822 209 73286	IC TA76

REF. DESIG.	PART NO.	DESCRIPTION
		PU04-MISCELLANEOUS
JU01	4822 265 10063	Jack, 6P
JU02	4822 265 10064	Jack, 7P
JU03	4822 265 10063	Jack, 6P
JU04	4822 265 10105	Jack, 4P
JU05	4822 265 10063	Jack, 4P
JU06	4822 265 10063	Jack, 4P
JU07	4822 265 10062	Jack, 3P
WU09	4822 323 10197	Jumper Lead, 2P
WU10	4822 323 10197	Jumper Lead, 2P
WU21	4822 323 10109	Jumper Lead, 4P
WU22	4822 323 10124	Jumper Lead, 2P
WU23	4822 323 10134	Jumper Lead, 7P
WU24	4822 323 10082	Jumper Lead, 3P
XU02	4822 242 72194	Ceramic Vibrator, 4.19MHz
		PU14-FIP/TACT SWITCH CIRCUIT BOARD
DX13 ~ DX17	4822 130 80326	L.E.D. LT3D8B
QU06	4822 130 10009	Photo Unit
SU01	4822 276 11559	Push Switch, Tact
SU02	4822 276 11559	Push Switch, Tact
SU03	4822 276 11656	Push Switch, Tact
SU05 ~ SU23	4822 276 11656	Push Switch, Tact
SU29	4822 276 11656	Push Switch, Tact
SU30	4822 276 11656	Push Switch, Tact
VU01	4822 130 90564	Display Unit
WU17	4822 323 10112	Jumper Lead, 4P
		PV04-MULTI CONNECTOR CIRCUIT BOARD
JV01	4822 266 30306	Terminal, 13P
JV02	4822 266 30306	Terminal, 13P
JV03	4822 266 30315	Terminal, 15P
JV05	4822 265 10061	Jack, 5P
JV06	4822 265 10062	Jack, 3P
JV07	4822 265 10063	Jack, 6P
JV08	4822 265 10062	Jack, 3P
JV09	4822 265 10062	Jack, 3P
JV10	4822 265 10059	Jack, 8P
JV11	4822 265 10062	Jack, 3P
JV12	4822 290 40209	Terminal, Earth
		P704-MAIN AMP/POWER SUPPLY CIRCUIT BOARD
		P704-CAPACITORS
C713	4822 122 40103	Ceramic 5pF ±0.25pF
C714	4822 122 40103	Ceramic 5pF ±0.25pF
C801	4822 124 41603	Elect 4700μF 50V
C802	4822 124 41603	Elect 4700μF 50V
C803	4822 122 40545	Ceramic 0.01μF ±10%
C831	4822 122 32486	Ceramic 0.01μF +80% −20%
C832	4822 122 32486	Ceramic 0.01μF +80% −20%
C842	4822 122 40306	Ceramic 0.047μF +80% −20%

REF. DESIG.	PART NO.	DESCRIPTION
		P704-RESISTORS
⚠R711	4822 115 90166	10Ω ±2% ¼W, Fuse
⚠R712	4822 115 90166	10Ω ±2% ¼W, Fuse
⚠R713	4822 115 90314	68Ω ±2% ¼W, Fuse
⚠R714	4822 115 90314	68Ω ±2% ¼W, Fuse
R717	4822 100 11373	4.7KΩ, Trimming
R718	4822 100 11373	4.7KΩ, Trimming
R721	4822 116 52858	4.7Ω ±5% ¼W
R722	4822 116 52858	4.7Ω ±5% ¼W
R723	4822 116 52858	4.7Ω ±5% ¼W
R724	4822 116 52858	4.7Ω ±5% ¼W
R725	4822 111 91402	0.1Ωx2 3W, Array
R726	4822 111 91402	0.1Ωx2 3W, Array
R727	4822 116 52858	4.7Ω ±5% ¼W
R728	4822 116 52858	4.7Ω ±5% ¼W
R729	4822 111 90726	10Ω ±5% 2W
R730	4822 111 90726	10Ω ±5% 2W
R731	4822 111 90725	330Ω ±5% ¼W
R732	4822 111 90725	330Ω ±5% ¼W
⚠R811	4822 115 90166	10Ω ±2% ¼W, Fuse
⚠R812	4822 115 90166	10Ω ±2% ¼W, Fuse
⚠RN11	4822 115 90166	10Ω ±2% ¼W, Fuse
⚠RN14	4822 116 52115	680Ω ±5% 1W
		P704-SEMICONDUCTORS
⚠D801	4822 130 31007	Diode S4VB-20
⚠D811	4822 130 80839	Diode S5688G
⚠D812	4822 130 80839	Diode S5688G
⚠D813	4822 130 80839	Diode S5688G
⚠D814	4822 130 80839	Diode S5688G
⚠D831	4822 130 80907	Diode S2VB
D836	4822 130 80839	Diode S5688G
D837	4822 130 80839	Diode S5688G
D838	4822 130 80839	Diode S5688G
D839	4822 130 80998	Zener MTZJ10V
DN01	4822 130 33305	Diode 1SS133, etc.
DN02	4822 130 33305	Diode 1SS133, etc.
DN03	4822 130 80839	Diode S5688G
DN04	4822 130 80839	Diode S5688G
DN05	4822 130 33305	Diode 1SS133, etc.
DN07	4822 130 80839	Diode S5688G
Q701	4822 209 83779	IC μPC1270H-V
Q702	4822 209 83779	IC μPC1270H-V
Q703	4822 130 60117	Transistor 2SC3419(Y)
Q704	4822 130 60117	Transistor 2SC3419(Y)
⚠Q705	4822 130 60698	Transistor 2SD1714(S, P)
⚠Q706	4822 130 60698	Transistor 2SD1714(S, P)
⚠Q707	4822 130 60695	Transistor 2SB1159(S, P)
⚠Q708	4822 130 60695	Transistor 2SB1159(S, P)
Q811	4822 209 73523	IC NJM78L24A
Q812	4822 209 73525	IC NJM79L18A
Q813	4822 209 83821	IC NJM78M06FA
Q814	4822 209 73524	IC NJM79L12A
Q831	4822 209 82829	IC NJM78M15FA
Q832	4822 130 60698	Transistor 2SD1714(S, P)
Q833	4822 209 83828	IC NJM79M15FA
Q834	4822 209 83821	IC NJM78M06FA
Q835	4822 209 72332	IC NJM79M06FA
Q836	4822 209 70084	IC NJM7812A
Q837	4822 130 42591	Transistor 2SA1175(FF, EF)
Q838	4822 130 42298	Transistor 2SC536SP(F, G), etc.

REF. DESIG.	PART NO.	DESCRIPTION
QN01	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QN02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QN03	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QN04	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QN05	4822 130 60839	Transistor 2SC2458
		P704-MISCELLANEOUS
J701	4822 265 10062	Jack, 3P
J702	4822 265 10063	Jack, 6P
J801	4822 265 20205	Plug, 3P
J831	4822 265 10064	Jack, 7P
J836	4822 265 10064	Jack, 7P
J837	4822 265 10062	Jack, 3P
J838	4822 265 10062	Jack, 3P
J839	4822 265 10062	Jack, 3P
J840	4822 290 40209	Terminal, Earth
J841	4822 290 40209	Terminal, Earth
JV20	4822 265 10062	Jack, 3P
L701	4822 157 51739	Coil
L702	4822 157 51739	Coil
L703	4822 280 20197	Relay
WV03	4822 323 10077	Jumper Lead, 3P
WV05	4822 323 10146	Jumper Lead, 6P
W831	4822 323 10212	Jumper Lead, 8P
		P774-SPEAKER SWITCH CIRCUIT BOARD
S771	4822 276 20466	Push Switch
J771	4822 267 30834	Jack, Headphone
J772	4822 265 10078	Plug, 3P
W771	4822 323 10273	Jumper Lead, 6P
W772	4822 323 10147	Jumper Lead, 7P
		P784-SPEAKER TERMINAL CIRCUIT BOARD
J781	4822 267 50424	Terminal, 8P; Speaker
J782	4822 265 10064	Jack, 7P
J783	4822 290 40209	Terminal, Earth

(W01-99)	**Assembly and Wiring**
(T01-99)	**Adjustment**
(X01-00)	**Correction**

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

11. TECHNICAL SPECIFICATIONS

AUDIO/VIDEO MASTER AMPLIFIER PM583

Power output

T.S.P. (Total System Power, EIJA, 6 Ohms)	130 W
DIN 8 ohms	2 x 40 W
T.H.D. (at 1/2 rated output)	0.05%
IM Distortion (at 1/2 rated output)	0.05%
Damping factor	50

Phono input

Signal to noise ratio	75 dB
Sensitivity	4.5 mV/47kOhms

CD, CDV/TV/Video inputs

Input sensitivity impedance	400 mV/25kOhms
Signal to noise ratio	90 dB
Frequency response	10 Hz - 50 kHz
Tone characteristic	7B EQ ± 10 dB
Channel separation	>60 dB at 1 kHz

Video section

Sensitivity	1.0 V/75 Ohms
Output level	1.0 V/75 Ohms
Dimension (W x H x D)	360 x 120 x 300 mm
Net weight	7.2 kg

Power supply

N version	220 V AC 50/60 Hz
T version	240 V AC 50/60 Hz
E version	110/120/220/240 V AC 50/60 Hz

TUNER SECTION

1. TEST EQUIPMENT REQUIRED FOR SERVICING

Item	Use
AM Signal Generator	Signal source for AM alignment
Test Loop	Use with AM signal generator
FM Signal Generator	Signal source for FM alignment
MPX Signal Generator	Stereo separation alignment and trouble shooting
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
AC VTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Frequency Counter	MPX oscillator adjustment (VCO)
Circuit Tester	Trouble shooting
DC VTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to tuner
Line Voltmeter	Monitors potential of primary power to tuner
Variable Autotransformer	Adjusts level of primary power to tuner

2. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model ST583/ST583L consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Tuner . . . . . mounted on P.W. Board P102
2. Preset Mode . . . . . mounted on P.W. Board PT02
3. Preset UP/DOWN . . . . mounted on P.W. Board PS02
4. Input Output . . . . . mounted on P.W. Board PW02

3. TUNER ALIGNMENT PROCEDURES

A dummy resistor of 47 kohms must be connected across the tuner output terminals before alignment.

3.1 FM Alignment Procedures (Function switch in the "FM" position, MODE switch in the MONO position.)

1. FM RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	FM signal generator to FM antenna terminal (75Ω) through matching network Set the SG RF output level so that some noise can be observed on the upper and lower side of the output waveform.	98.00 MHz	VTVM to L or R channel output (J302 ⑫ or ⑬)	98.00 MHz	FRONT END IFT (A101: L8) for maximum output and minimum distortion.
2	FM signal generator 500μV output to FM antenna terminal (75Ω) through matching network Modulation Level DIN 40 kHz DEV. IHF 75 kHz DEV.	98.00 MHz	"O" center meter or DC current meter in 100 μA range (J201)	98.00 MHz	L201 (Primary) core so that the meter indicates its center or may read "O".
3	FM signal generator 500μV output to FM antenna terminal (75Ω) through matxhing network.	98.00 MHz	Distortion meter to L or R channel output (J302 ⑫ or ⑬)	98.00 MHz	L201 (Secondary) core for minimum distortion.

3.2 Muting Level Alignment (Function switch in the "FM" position, MODE switch in the "AUTO STEREO" position.)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	FM signal generator 6.3μV output to FM antenna terminal through matching network (75Ω)	98.00 MHz	VTVM to L or R channel output (J302 ⑫ or ⑬)	98.00 MHz	Adjust R211 until output is developed.

3.3 Multiplex Alignment Procedures (Function switch in the "FM" position, MODE switch in the "AUTO STEREO" position.)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	FM signal generator 500μV output modulated by MPX signal generator to FM antenna terminal (75Ω) through matching network Modulation Level DIN 40 kHz+8% Pilot DEV. IHF 67.5 kHz+9% Pilot DEV.	No modulation	Frequency counter to (J301)	98.00 MHz	R314 so that Frequency may precisely read 228.0 kHz.
2		Stereo left (1,000 Hz)	VTVM to right channel output (J302 ⑫)		R301 for same separation in both channels.
3		Stereo right (1,000 Hz)	VTVM to left channel output (J302 ⑬)		
4	Repeat steps 2 and 3.				

3.4 AM Alignment Procedures (Function switch in the "AM" position.)

1. AM IF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Sweep generator to AM Antenna Terminal.	450 kHz marker	Oscilloscope to (RA15)	———	FA01 for maximum and symmetric response.

AM RF Alignment

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Apply the signal to the AM loop antenna from the AM signal generator using the test loop.	603 kHz (600 kHz)	VTVM to L or R channel output (J302 ⑫ or ⑬)	603 kHz (600 kHz)	LA01 for maximum output.
2		1,404 kHz (1,400 kHz)		1,404 kHz (1,400 kHz)	CA01 for maximum output.
3	Repeat steps 1 and 2.				

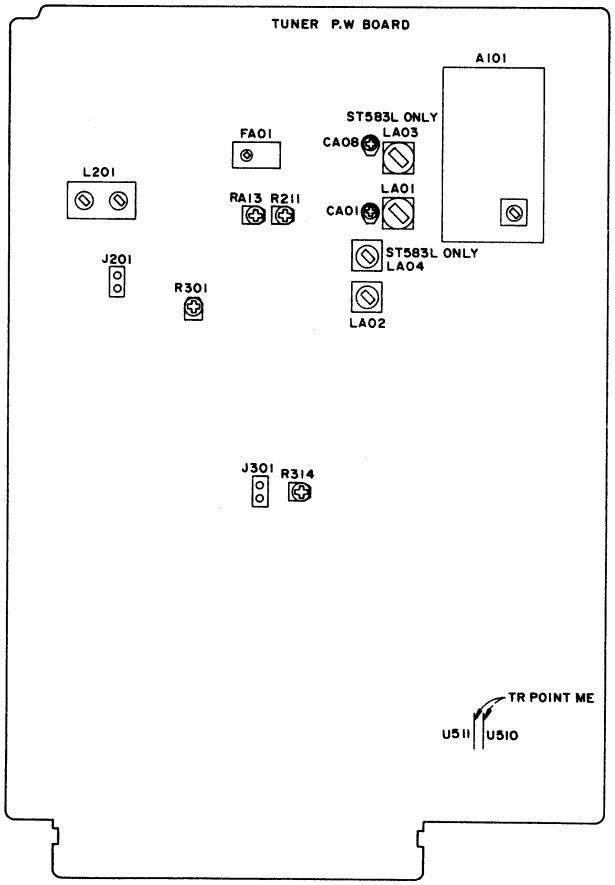
AM Signal Alignment (Function switch in the "AM" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Apply a signal to the AM loop antenna from the RF generator via the test test loop. 500μV signal	999 kHz (1000 kHz)	———	999 kHz (1000 kHz)	Adjust RA13 so that light. "TUNED"

LW RF Alignment (Function in the "LW" position) ST583L Only

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set the Digital Readout Frequency	Adjust:
1	Apply the signal to the AM loop antenna from the RF generator using the test loop.	173 kHz	VTVM to L or R channel output (J302 ⑫ or ⑬)	173 kHz	LA03 for maximum output.
2		272 kHz		272 kHz	CA08 for maximum output.
3	Repeat steps 1 and 2 as necessary to obtain maximum sensitivity.				

4. TEST POINT AND ALIGNMENT POINTS



5. ONE-CHIP MICROPROCESSOR FOR TUNER-LC6514B-3357 (Q505)

1. Receiving Frequency Range, Channel Space, Reference Frequency, Intermediate Frequency

			Channel Space	Reference Frequency	Intermediate Frequency
Europe	FM	87.5 – 108.0MHz	50kHz	25kHz	+10.7MHz
	MW	531 – 1602kHz	9kHz	9kHz	+450kHz
	LW	152 – 282kHz	1kHz	1kHz	+450kHz

2. Tuning Function

1) Automatic Up/Down Tuning (sawtooth wave mode)
2) Manual Up/Down Tuning
The frequency changes in steps when the momentary switch is pressed or rapidly at a speed of approximately 70ms/step when the switch is depressed for 0.5 seconds or more. If the finger is released automatic tuning is performed.
3) Preset Memory Recall
16 FM stations + 8 AM stations
For FM, 8 keys x 2 = 16
M1 to M8 when keys pressed for less than 0.5 sec.
M9 to M16 when keys pressed for more than 0.5 sec.
For AM (MW + LW) – 8
M1 to M8 (random for MW and LW)

3. Remote Control Function

Remote control operation with Philips RC-5 bus code signals.
a) Band switching
b) Preset recall
c) Tuning up/down
d) Mode (mono/stereo) switching

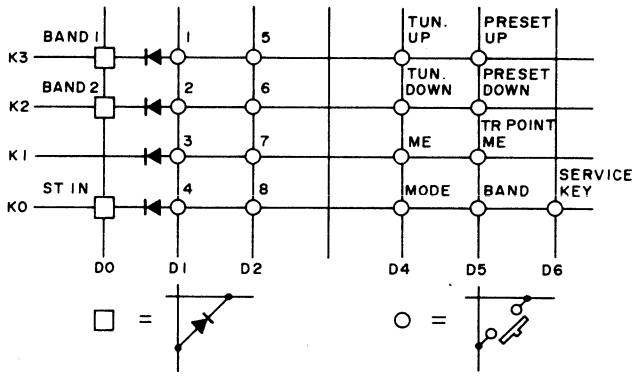
4. Easy Bus Out Function

The signal for switching the audio amplifier's input selector to TUNER is output as an RC-5 bus code.
(For band switching, preset recall, and tuning up/down)

5. IF Count Function

For the LW band only, when the SD pin becomes high after the PLL frequency is changed, the IF frequency is counted and "TUNED" lights on the fluorescent display if the result is 450 kHz. If in the auto scan mode, scanning stops. (There is no IF count function for the FM and MW bands.)

6. Key Matrix



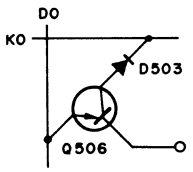
Description of Keys

* [BAND 1], [BAND 2] Initial setting diodes for directivity selection

	USA	JAPAN	EUROPE (w/o LW)	EUROPE (w/ LW)
BAND 1	0	1	0	1
BAND 2	0	0	1	1

BAND 1: D501
BAND 2: D502
0: No diode
1: Diode

* [ST IN] (Transistor switch)
Inputs PLL IC LM7000 ST. OUT. (When IF frequency becomes 450 ±0.6 kHz, ST. OUT becomes low and transistor switch turns ON.



* [1 – 8] Preset memory setting and recall keys

* [TUNE UP], [DOWN] Tuning up and down keys
The frequency increases or decreases by 1 step when pressed once (0.5 sec. or less) and changes continuously at a speed of approximately 70 ms/step when pressed for more than 0.5 seconds. If the finger is released, automatic tuning is performed.

* [ME] Memory setting key
When the key is pressed, "MEMORY" will light for approximately 5 seconds indicating that memory setting is possible. If pressed again, "MEMORY" will remain lit for another 5 seconds.
For AM, the frequency is stored at that key number when any key is pressed. For FM, the frequency is stored at numbers 1 to 8 if the keys are pressed for less than 0.5 seconds, and at numbers 9 to 16 if the keys are pressed for more than 0.5 seconds.

* [MODE] Mono/stereo output select key
When pressed in FM, the mono/stereo output changes cyclicly between low and high. This can also be stored in the memory with the preset memory frequency.

* BAND Band select key. Band switches each time key is pressed.

FM → AM (w/o LW)

FM → MW → LW (w/ LW)

* PRESET UP, DOWN Preset scan up and down keys The preset address increases or decreases by 1 step when pressed once (0.5 sec. or less) and changes continuously at a speed of approximately 0.5 sec/step when pressed for more than 0.5 seconds.

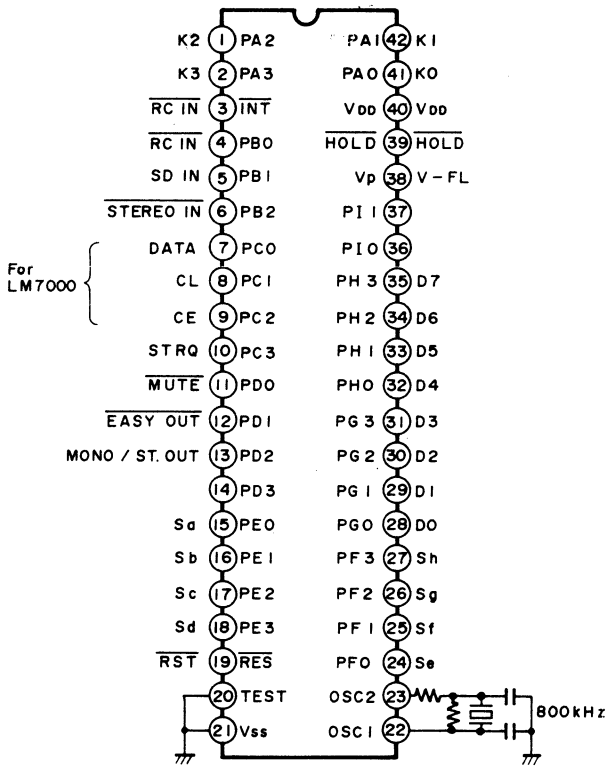
TR POINT ME (Tracking point memory key)
When test point J501 ① and ② on the P102 P.W. board are shorted, the following frequencies are written into the memory:

FM: P1=90.0 MHz, P2=98.0 MHz, P3=106.0 MHz
AM: P1=603 kHz, P2=999 kHz, P3=1404 kHz
P4=173 kHz, P5=209 kHz, P6=272 kHz (LW only)

SERVICE (Service program start key)
When test points D6 and Ko on the P102 P.W. bosrd are shorted, the following service program is started;

1) The muting signal is output.
2) First all displays on the fluorescent display turn off, then the segments light in order one at a time starting from the "a" segment for the fourth digit.
3) After the last segment lights, all segments remain lit for approximately 3 seconds, then the unit returns to the same status as before the service program was started.

Pin Connections Diagram



• Description of Pins

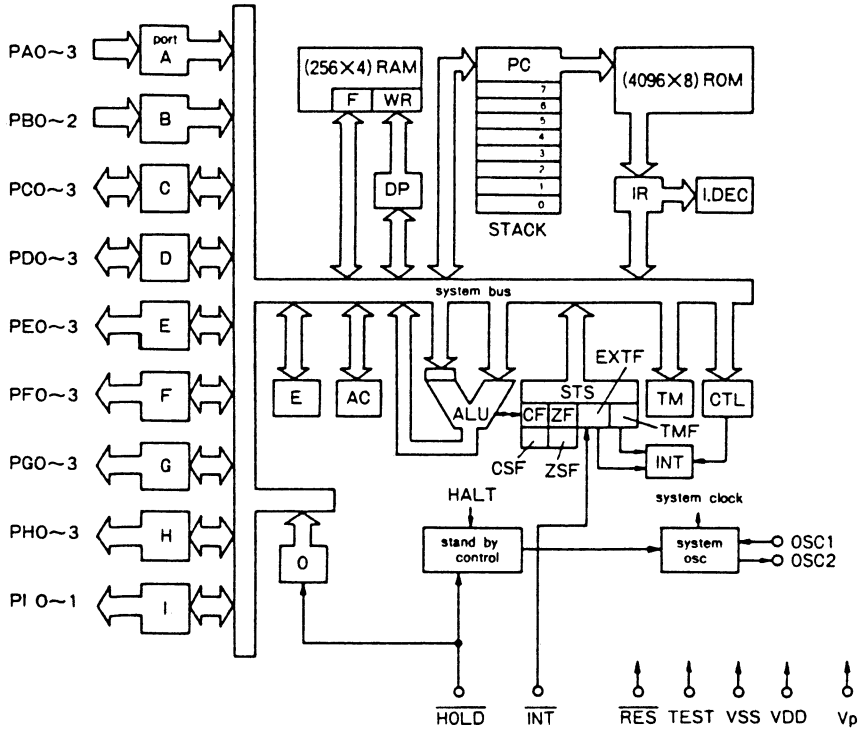
Sa – Sh:	Fluorescent display segment signals.
Do – D7:	Fluorescent display digit signals and key return signals. D0 → Diode matrix return signal D1 – D6 → Key return signals D1 – D7 → Digit signals
K0 – K3:	Key input, diode matrix input
DATA CL CE	Signals transferred to LM7000N
R.C IN:	For inputting remote control signal.
SD IN:	Stop signal input pin for auto tuning. For FM and MW, when the SD IN pin becomes high, "TUNED" lights on the fluorescent display, and if in the auto tuning mode, scanning stops. For LW, when the SD IN pin becomes high, the STRQ pin becomes high and the LM7000N performs IF counting. If the result is 450 kHz ±0.6 kHz, ST IN becomes low, "TUNED" lights, and if in the auto tuning mode, scanning stops.
ST RQ:	Signal for making LM7000N perform IF counting. For the LW band only, if the SD IN pin is high after the PLL data is changed, the ST RQ pin becomes high for approximately 180 ms.
MUTE OUT:	Audio mute signal. Output when the band is switched, preset frequencies are recalled, the power is turned on, etc. Low when active

$\overline{\text{EASY OUT}}$: Easy operation out signal.
Outputs a 14-bit RC-5 code synchronized with the MUTE OUT output.

MONO/ST. OUT: Mode switch output.
For FM, the output changes between low and high depending on the MODE key. When the output is high, "AUTO" lights on the fluorescent display, and when low, "AUTO" is not lit.

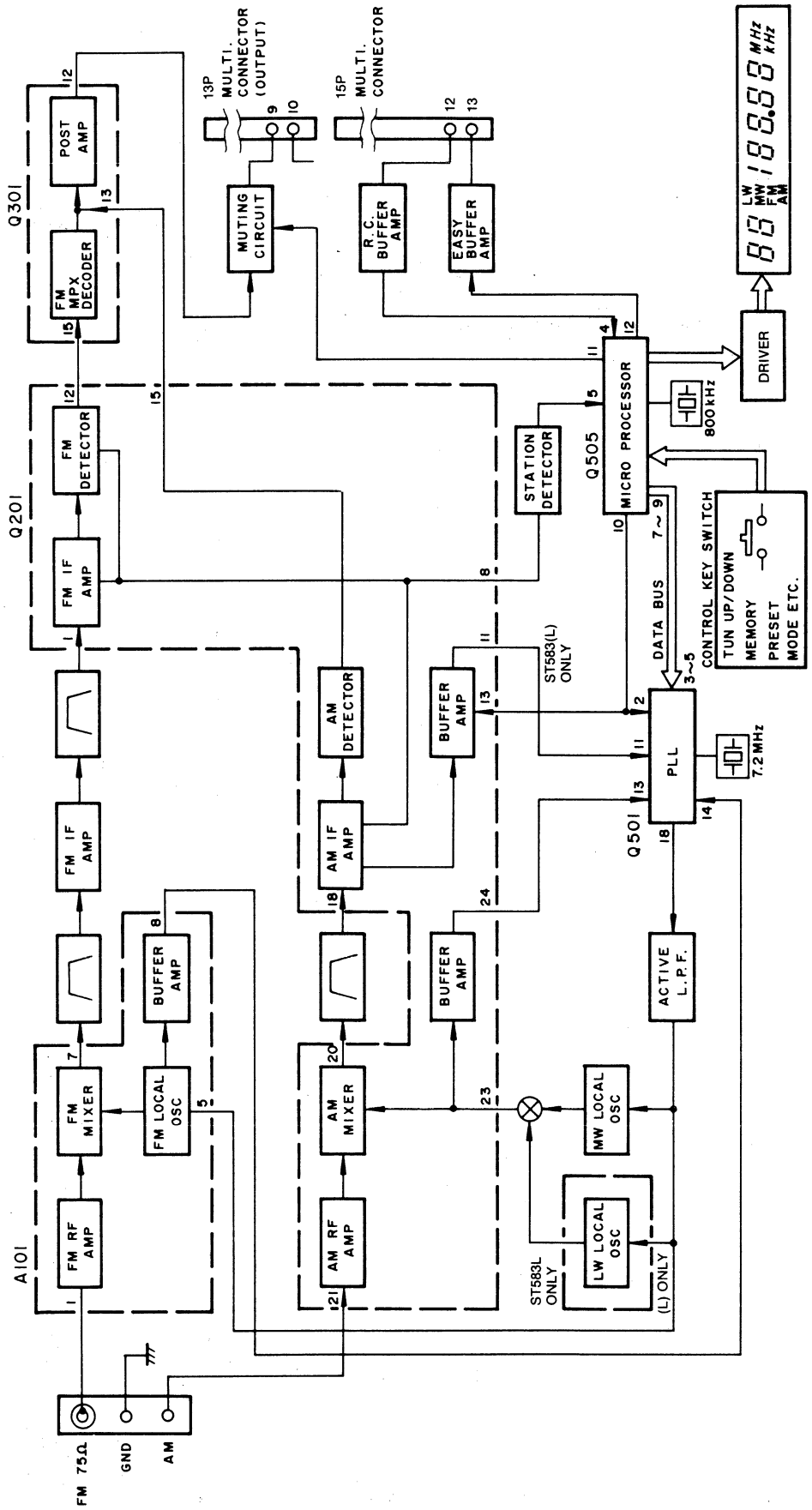
$\overline{\text{STEREO IN}}$: Pin for lighting "STEREO" on fluorescent display.
For FM, when this pin becomes low, "STEREO" lights only when "TUNED" is lit.

System Block Diagram

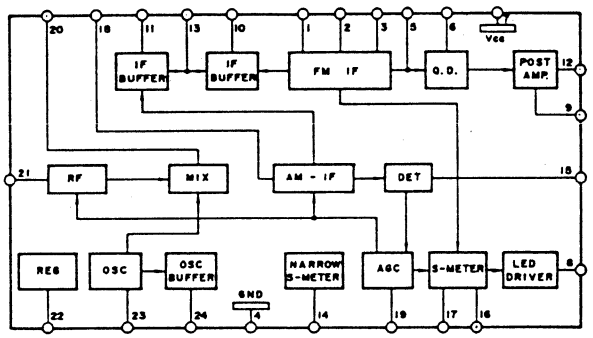


RAM: Data Memory
F: Flag
WR: Working Resist
AC: Accumulator
ALU: Logic Operation unit
DP: Data Pointer
E: E Resister
CTL: Control Resister
OSC: OSC Circuit
TM: Timer
STS: Status Resister
ROM: Program Memory
PC: Program Counter
INT: Interrupt Control
IR: Inst. Resister
I. DEC: Inst. Decoder
DF, CSF: Carry Flag
ZF, ZSF: Zero Flag

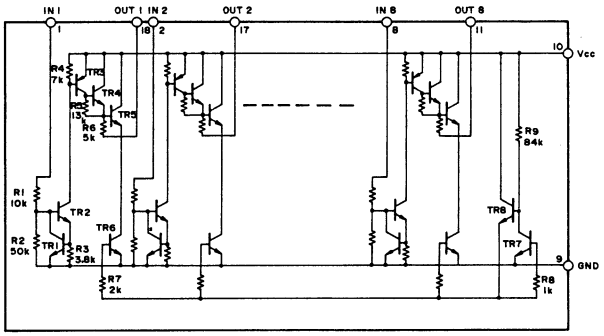
6. BLOCK DIAGRAM



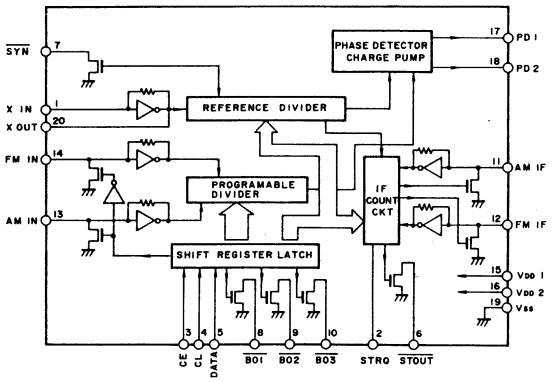
Q201



Q510, Q511

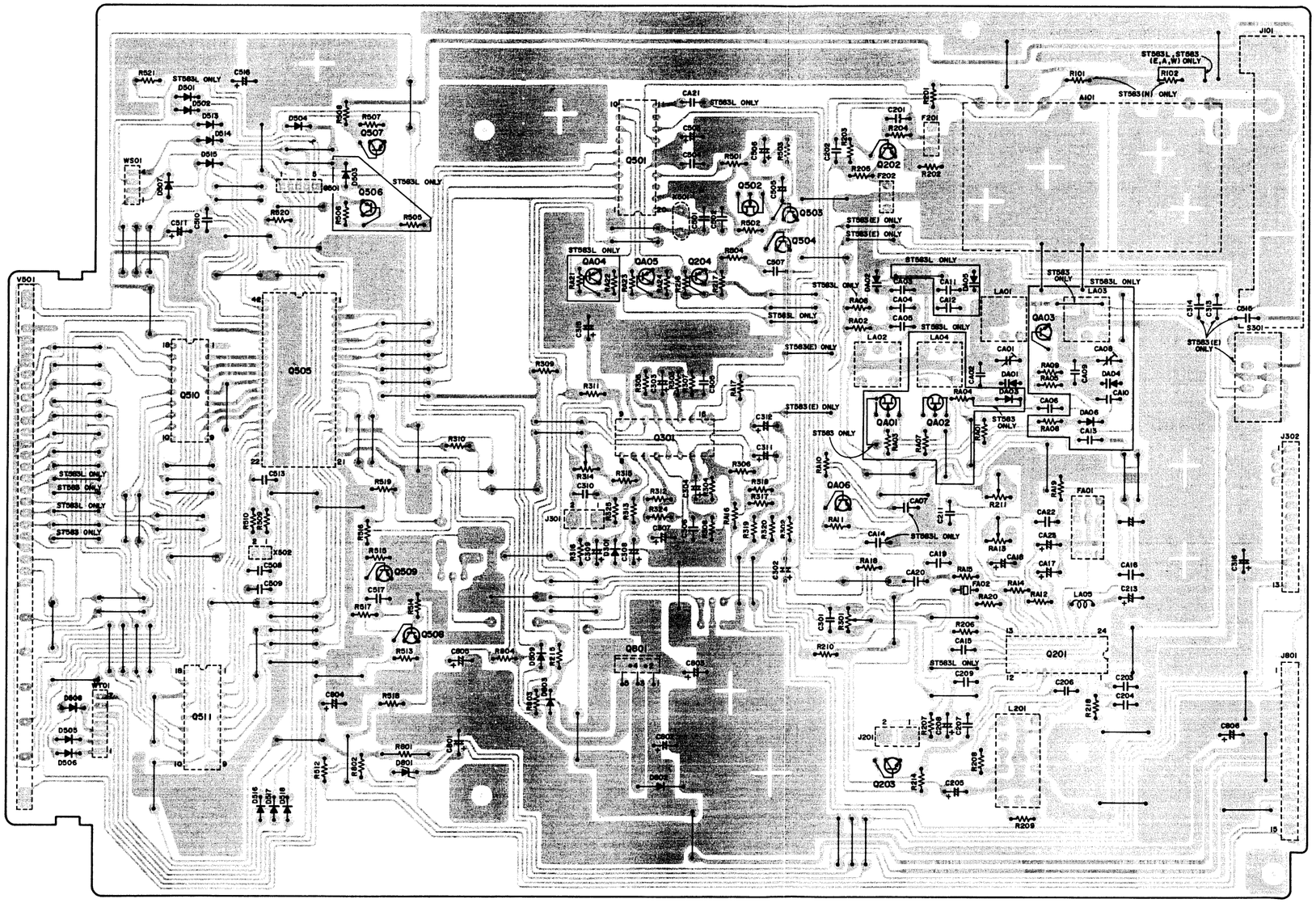


Q501

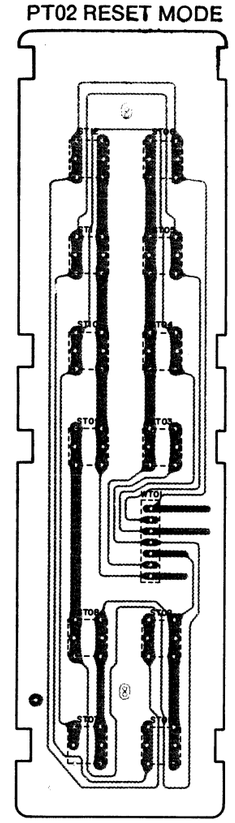


8. COMPONENT LOCATIONS

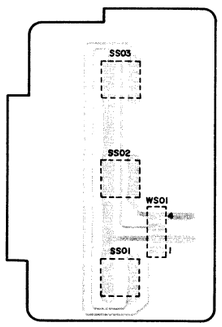
P102 TUNER



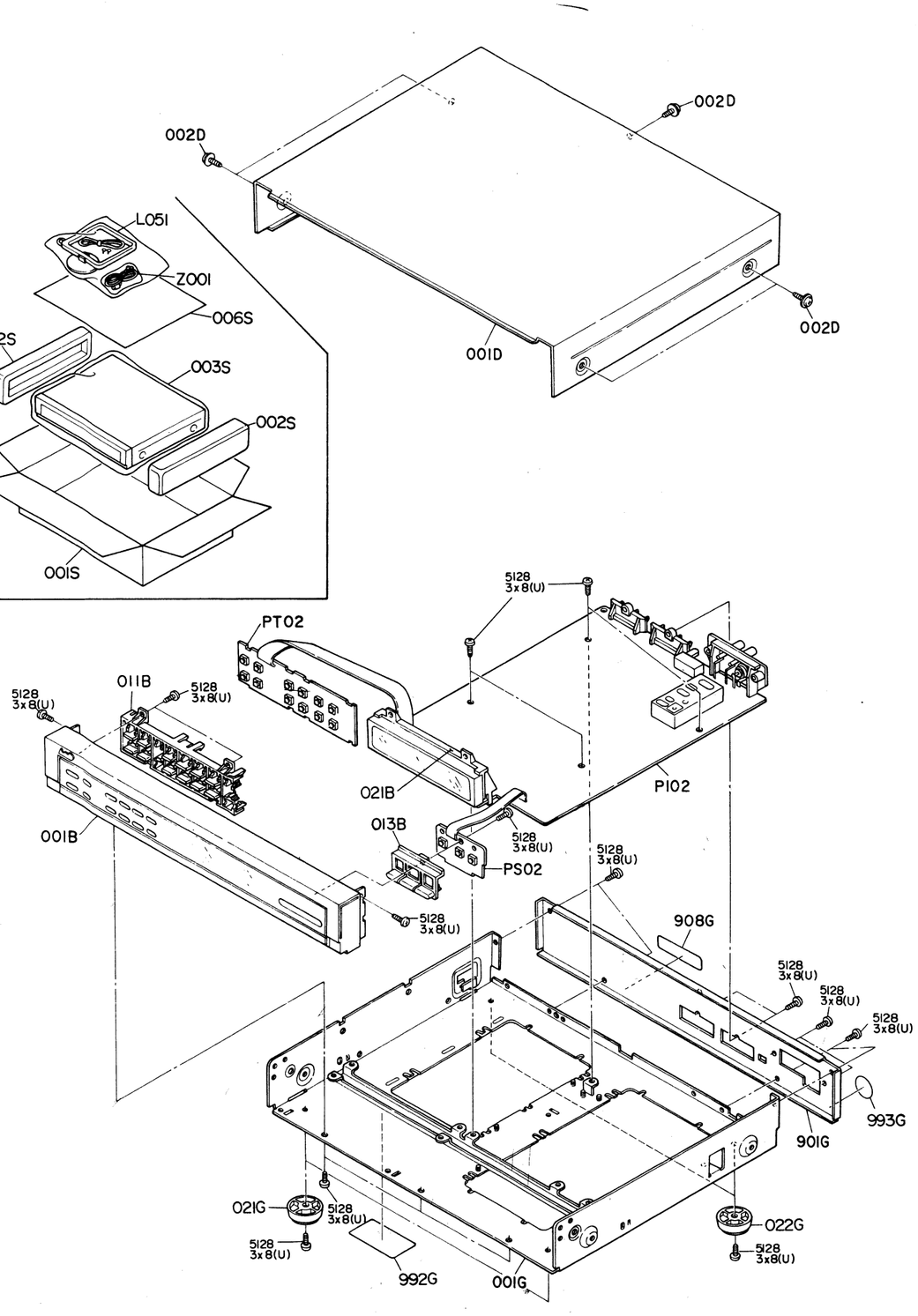
PT02 RESET MODE



PS02 RESET UP/DOWN



9. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 426 51302	Front Panel Assembly (ST583)
001B	4822 426 51314	Front Panel Assembly (ST583L)
011B	4822 410 26635	Button, Preset
013B	4822 410 25831	Button, Tuning UP/Down
001D	4822 426 40368	Lid, Top Cover
002D	4822 502 12355	B.T. Screw B3 x 8
001G	4822 464 70533	Chassis Assembly, Main
021G	4822 462 41271	Leg, Front
022G	4822 462 41186	Leg, Rear
901G	4822 426 20168	Rear Panel (ST583)[E]
	4822 426 20169	Rear Panel (ST583)[N]
992G	4822 600 70229	Label, Coution
993G	4822 454 11873	Indicator, Made in Japan
		PACKING
001S	4822 600 70547	Packing Case (ST583)[E]
002S	4822 600 70474	Cushion
006S	4822 600 70548	Reinforcing [E]
L051	4822 157 53089	Antenna Coil, Loop

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05 --- 140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05 --- 160, Carbon film fixed resistor, ±5%, 1/6W

① — Resistance value

Examples

① Resistance value

0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
1Ω...010	100Ω...101	10kΩ...103	1MkΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MkΩ...475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C***: CERAMIC CAP.

(1) DD1 --- 370, Ceramic condenser
Disc type
①② Temp. coeff. P350 ~ N1000, 50V
Capacity value
Tolerance

Examples

① Tolerance (Capacity deviation)
±0.25pF...0
±0.5pF...1
±5%...5

* Tolerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF...±0.25pF
6pF ~ 10pF...±0.5pF
12pF ~ 560pF...±5%

② Capacity value

0.5pF...005	3pF...030	100pF...101	
1pF...010	10pF...100	220pF...221	
1.5pF...015	47pF...470	560pF...561	

C***: CERAMIC CAP.

(1) DK16 --- 300, High dielectric constant ceramic condenser
Disc type
① Temp. chara. 2B4, 50V
Capacity value

Example

② Capacity value

100pF...101	1000pF...102	10000pF...103	
470pF...471	2200pF...222		

C***: ELECTROLY CAP. (⧧), FILM CAP. (⫩)

(1) EA ------ 10, Electrolytic condenser
One-way lead type, Tolerance ±20%
①②
Dielectric strength
Capacity value

Examples

① Capacity value

0.1μF...104	4.7μF...475	100μF...107
0.33μF...334	10μF...106	330μF...337
1μF...105	22μF...226	1100μF...108
		2200μF...228

② Working voltage

6.3V...006	25V...025
10V...010	35V...035
16V...016	50V...050

(2) DF15 --- 350, Plastic film condenser
One-way type, Mylar ±5% 50V
①
Capacity value

Examples

① Capacity value

0.001μF (1000pF)...102	0.1μF...104
0.0018μF.....182	0.56μF...564
0.01μF.....103	1μF...105
0.015μF.....153	

10. ELECTRICAL PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
		P102-TUNER CIRCUIT BOARD
		P102-CAPACITORS
CA01	4822 125 50384	Trimming 20pF
CA02	4822 122 40306	Ceramic 0.047μF +80% −20%
CA04	4822 122 31205	Ceramic 47pF ±5%
CA05	4822 121 41629	Film 390pF ±5%
CA06	4822 122 32486	Ceramic 0.01μF +80% −20%
CA07	4822 122 32486	Ceramic 0.01μF +80% −20%
CA08	4822 125 50384	Trimming 20pF (ST583L)
CA09	4822 122 40306	Ceramic 0.047μF (ST583L)
CA12	4822 122 10367	Ceramic 150pF ±5% (ST583L)
CA13	4822 122 32486	Ceramic 0.01μF (ST583L)
CA14	4822 122 32486	Ceramic 0.01μF (ST583L)
CA15	4822 122 32486	Ceramic 0.01μF +80% −20%
CA16	4822 122 40306	Ceramic 0.047μF +80% −20%
CA19	4822 122 32486	Ceramic 0.01μF +80% −20%
CA22	4822 122 32486	Ceramic 0.01μF +80% −20%
C201	4822 122 32486	Ceramic 0.01μF +80% −20%
C202	4822 122 32486	Ceramic 0.01μF +80% −20%
C203	4822 122 40306	Ceramic 0.047μF +80% −20%
C204	4822 122 40306	Ceramic 0.047μF +80% −20%
C206	4822 122 40306	Ceramic 0.047μF +80% −20%
C207	4822 122 40306	Ceramic 0.047μF +80% −20%
C211	4822 122 40306	Ceramic 0.047μF +80% −20%
C310	4822 121 41518	Film 470pF ±5%
C504	4822 122 32486	Ceramic 0.01μF +80% −20%
C507	4822 122 32486	Ceramic 0.01μF +80% −20%
C510	4822 122 32486	Ceramic 0.01μF +80% −20%
C516	4822 124 41592	Elect 0.1μF 5.5V
C517	4822 122 32486	Ceramic 0.01μF +80% −20%
		P102-RESISTORS
RA13	4822 100 11352	22KΩ, Trimming
R210	4822 111 91404	150Ω ±5% 1/6W
R211	4822 100 11372	47KΩ, Trimming
R301	4822 100 11351	10KΩ, Trimming
R311	4822 111 91405	220Ω ±5% 1/6W
R314	4822 100 11351	10KΩ, Trimming
R801	4822 116 80914	47Ω ±5% 1/6W
G501	4822 111 91399	100KΩx4 ±5% 1/6W
		P102-SEMICONDUCTORS
DA01	4822 130 31542	Varicap SVC321SP
DA02	4822 130 31542	Varicap SVC321SP
DA03	4822 130 33697	Diode 1SS135 (ST583L)
DA04	4822 130 31542	Varicap SVC321SP (ST583L)
DA05	4822 130 31542	Varicap SVC321SP (ST583L)
DA06	4822 130 33697	Diode 1SS135 (ST583L)
D301	4822 130 33305	Diode 1SS133, etc.
D501	4822 130 33305	Diode 1SS133, etc. (ST583L)
D502	4822 130 33305	Diode 1SS133, etc. [N, A, W]
D503	4822 130 33305	Diode 1SS133, etc. (ST583L)
D504	4822 130 33305	Diode 1SS133, etc. (ST583) E]
D505 ~ D509	4822 130 33305	Diode 1SS133, etc.
D513 ~ D518	4822 130 33305	Diode 1SS133, etc.

REF. DESIG.	PART NO.	DESCRIPTION
D801	4822 130 80272	Zener RD7.5JB2, etc.
D802	4822 130 32508	Diode 10SF10C, etc.
D803	4822 130 33305	Diode 1SS133, etc.
QA01	4822 130 42121	F.E.T. 2SK30A(Y) (ST583L)
QA02	4822 130 42121	F.E.T. 2SK30A(Y) (ST583L)
QA03	4822 130 42125	Transistor 2SD1302(S, T)(ST583L)
QA04	4822 130 60495	Transistor 2SA1309A(Q, R) (ST583L)
QA05	4822 130 60495	Transistor 2SA1309A(Q, R)
QA06	4822 130 42715	Transistor 2SA608SP(F, G), etc.
Q201	4822 209 71785	IC LA1266
Q202	4822 130 42082	Transistor 2SC1047(C)
Q203	4822 130 42298	Transistor 2SC536SP(F, G)
Q204	4822 130 60495	Transistor 2SA1309A(Q, R)
Q301	4822 209 71776	IC TEA5581
Q501	4822 209 83314	IC LM7000N
Q502	4822 130 42121	F.E.T. 2SK30A(Y)
Q503	4822 130 42298	Transistor 2SC536SP(F, G)
Q504	4822 130 42298	Transistor 2SC536SP(F, G)
Q505	4822 209 71788	Microprocessor LC6514B-3357
Q506	4822 130 42715	Transistor 2SA608SP(F, G) (ST583L)
Q507	4822 130 42715	Transistor 2SA608SP(F, G) (ST583)[E]
Q508	4822 130 42298	Transistor 2SC536SP(F, G)
Q509	4822 130 42715	Transistor 2SA608SP(F, G)
Q510	4822 209 72863	IC LB1290
Q511	4822 209 72863	IC LB1290
Q801	4822 209 70385	IC L78MR05
		P102-MISCELLANEOUS
A101	4822 210 10246	V.H.F. Tuner, FE306-A14 (ST583) [A, E, W]
	4822 210 10267	V.H.F. Tuner, FE307-G44 (ST583) [N]
	4822 210 10246	V.H.F. Tuner, FE306-A14 (ST583L)
FA01	4822 242 71509	Ceramic Filter, SFL450J3
FA02	4822 242 71217	Ceramic Filter, BFU450C
F201	4822 242 70911	Ceramic Filter, SFE10.7MA8-A (ST583) [E]
	4822 242 71135	Ceramic Filter, SFE10.7MS3-A [N, A, W]
F202	4822 242 71135	Ceramic Filter, SFE10.7MS3-A
J101	4822 266 30298	Terminal, Antenna
J201	4822 265 10158	Plug, 2P
J301	4822 265 10158	Plug, 2P
J302	4822 266 30306	Terminal, 13P
J801	4822 266 30315	Terminal, 15P
LA01	4822 157 52328	Antenna Coil, MW
LA02	4822 157 52716	OSC Coil, AM
LA03	4822 157 52714	Antenna Coil, LW (ST583L)
LA04	4822 157 52717	OSC Coil, LW (ST583L)
LA05	4822 157 53589	Choke Coil, 39mH
L201	4822 157 53061	I.F.T. Coil, FM Det
S301	4822 277 20968	Slide Switch, Scan/Step (ST583) [E]
V501	4822 130 90433	Display Unit, FIP10TM8
X501	4822 242 71219	Crystal, 7.2MHz
X502	4822 242 72058	Ceramic Vibrator

REF. DESIG.	PART NO.	DESCRIPTION
		PS02-PRESET UP/DOWN CIRCUIT BOARD
SS01	4822 276 12455	Push Switch, Down
SS02	4822 276 12455	Push Switch, UP
SS03	4822 276 12455	Push Switch, Band
		PT02-PRESET MODE CIRCUIT BOARD
ST01 ~ ST12	4822 276 12455	Push Switch

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

11. TECHNICAL SPECIFICATIONS

FM/AM STEREO TUNER ST583/ST583L

FM Stage (87.5 - 108 MHz)

Sensitivity
- DIN mono (S/N 26 dB 75 Ohm) ..... 1.0 µV
- DIN stereo (S/N 46 dB 75 Ohm) ..... 30 µV

Selectivity adjacent channel 98 MHz ..... 60 dB
Tuner output (1 kHz 75 kHz Dev.) ..... 940 mV

Signal to noise ratio

S/N DIN weighted mono ..... 73 dB
S/N DIN weighted stereo ..... 68 dB
Total harmonic distortion mono 0.2%
Total harmonic distortion stereo 0.5%
Accuracy of frequency response across 30 Hz - 15 kHz bandwidth ..... + 0.5/-2 dB
Stereo separation ..... 45 dB

MW Stage (531 - 1602 kHz)

Sensitivity (S/N 20 dB 30% mod 1 MHz) ..... 500 µV
Selectivity 1 MHz ± 9 kHz ..... 30 dB
Signal to noise ratio at 1 MHz ..... 50 dB

LW Stage (152 - 282 kHz)

Sensitivity (S/N 20 dB 30% mod 209 kHz) ..... 1000 µV
Signal to noise ratio at 209 kHz ..... 50 dB
Dimensions (W x H x D) ..... 360 x 55 x 300 mm
Net weight ..... 3.0 kg

DECK SECTION

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of your Cassette Deck consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Mix Mic/NR Switch ... mounted on P.W. Board PS03
2. Logic Main ..... mounted on P.W. Board PU03
3. Multi Connector..... mounted on P.W. Board PU53
4. Key Switch ..... mounted on P.W. Board PY03
5. Direction
   LED (Deck A)..... mounted on P.W. Board PY13
6. Direction
   LED (Deck B)..... mounted on P.W. Board PY23
7. Dolby B/C ..... mounted on P.W. Board P603

2. TEST EQUIPMENT REQUIRED FOR SERVICING

For measuring or checking your Cassette Deck, the following instruments and materials are necessary.

- VTVM
- Audio Oscillator (AF OSC)
- Attenuator (600 Ω)
- Oscilloscope
- Bandpass Filter (1 kHz)
- IEC A-Curve Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Distortion Meter
- Black Tapes (Completely erased with bulk eraser)
  TDK AC-212 (Normal)
  TDK AC-512 (Special/CrO_2)
  TDK AC-712 (Metal)

NOTE:
If any doubt is noted in a measured value, use new tape.

- Test Tape (New Tape)

TCC-111·MTT-111	Wow and Flutter, Tape Speed
TCC-140·MTT-112B	Signal-to-Noise Ratio
TCC-130·MTT-150	Level Adjustment
TCC-161·MTT-256	Frequency Response (for Normal)
TCC-261·MTT-356	Frequency Response (for CrO_2 and Metal)
TCC-192·MTT-121	Cross Talk
TCC-194·MTT-141	Channel Separation
TCC-120·MTT-212 (A-BEX)·(TEAC)	Output

3. ADJUSTMENT

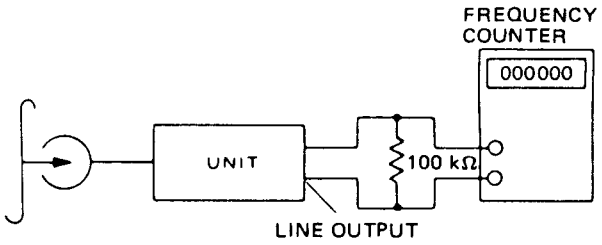
3.1 TAPE SPEED ADJUSTMENT

DECK A

1. Play the 3000 Hz test tape and adjust speed adjust variable resistor VR-1 for a counter reading of 3010 Hz ±5 Hz. (Normal speed mode 4.8 cm/sec.)
2. Play the 3000 Hz test tape and adjust speed adjust variable resistor VR-2 for a counter reading of 6020 Hz ±10 Hz. (High speed mode 9.5 cm/sec.)
   Do this with JM01 short-circuited.
3. Rewind, play, and check that the speed is within the proper range to make sure that the adjustment is correct.

DECK B

1. Play the 3000 Hz test tape and adjust speed adjust variable resistor VR-1 for a counter reading of 3010 Hz ±5 Hz. (Normal speed mode 4.8 cm/sec.)
2. Play the 3000 Hz test tape and adjust speed adjust variable resistor VR-2 for a counter reading of 6020 Hz ±10 Hz. (High speed mode 9.5 cm/sec.)
   Do this with JM11 short-circuited.
3. Rewind, play, and check that the speed is within the proper range to make sure that the adjustment is correct.



NOTE:

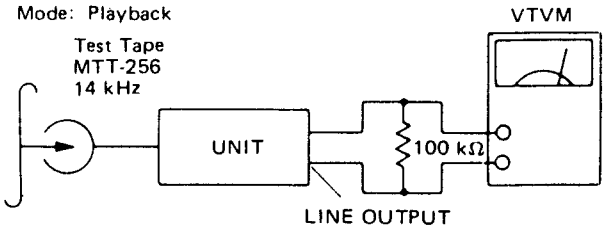
1. Do not adjust after the unit is subjected to an excessive temperature change.
2. Be careful that the frequency counter may indicate an incorrect value because of too low of a counter input level.
3. Perform the above adjustments, after approx. 10 to 20 seconds.
4. Adjust the normal speed first. To set to the high speed mode, first set to the normal playback mode then short-circuit JM01 (deck A) or JM11 (deck B).
5. When set to the play mode with JM01 or JM11 short-circuited, the mechanism will malfunction, so be sure to set to the normal play mode before short-circuiting them.
6. Adjust the tape speed so that deck A is about 10 Hz faster than deck B.

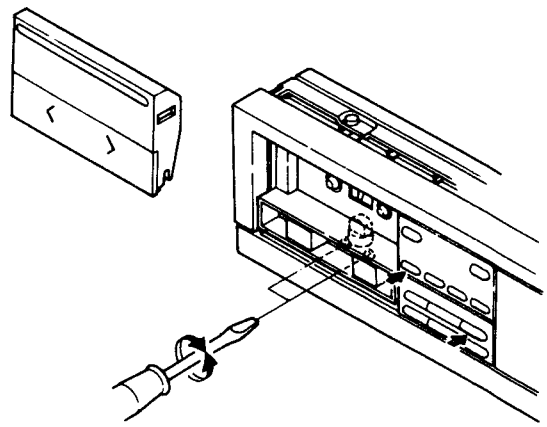
3.2 HEAD AZIMUTH ADJUSTMENT

1. Play back the 14 kHz signal of the test tape MTT-256, and rotate the head azimuth adjusting screw for a maximum VTVM reading.
2. If the peak level reads of the right and left channels are different, set the lower channel to maximum.
3. After adjustment, be sure to lock the screws with bond.

NOTE:

Be sure to adjust with the same section on the same side of the tape of both TAPE 1 and TAPE 2.





3.3 PLAYBACK OUTPUT LEVEL ADJUSTMENT

1. Play back the test tape MTT-150 and adjust RJ47(L)/RJ48(R) for TAPE 1, RJ73(L)/RJ74(R) for TAPE 2, so that the pin voltage at the Dolby test point (TP7 8) becomes 245 mV.
2. Rewind the tape and play back again to confirm that both levels are the same.

3.4 RECORDING/PLAYBACK LEVEL ADJUSTMENT

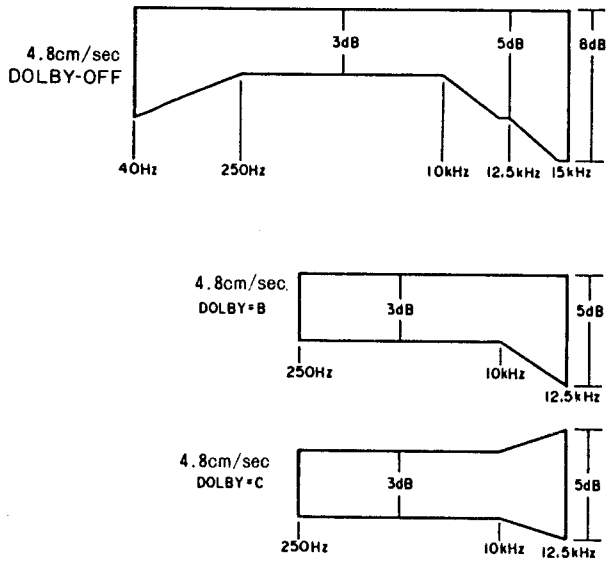
1. Load a normal tape.
2. Set the ALC circuit to its maximum sensitive condition.
3. Apply the 1 kHz, 250 mV signal to the Line Input terminal and record it. Then play it back and adjust RK31 (L) and RK32 (R) so that it becomes the same level as the monitor level. For CrO_2 and Metal tape, adjust following the same procedure and confirm that the level difference between the recording (input) level and the playback (monitor) level is within 1 dB.

3.5 REC/PLAY FREQUENCY RESPONSE ADJUSTMENT AND MEASUREMENT

(NORMAL)

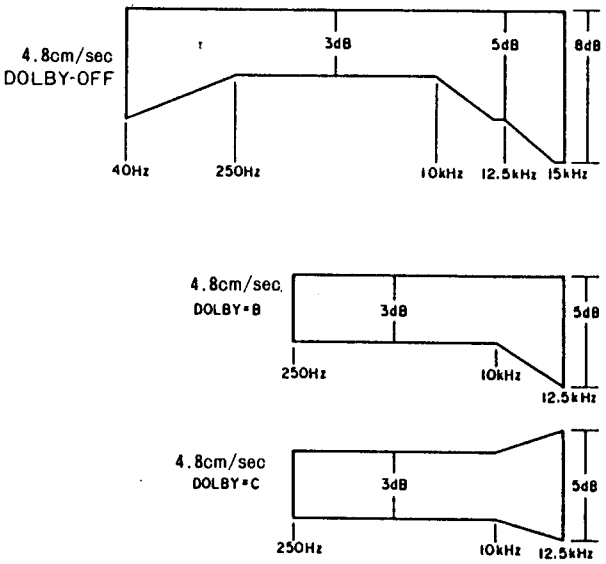
1. Load the AC-212 test tape and set the deck to the recording mode (input: 250 mV). Then reduce the level by 22 dB with the attenuator and record 1 kHz and 10 kHz on the non-recorded section. (DOLBY C position)
2. Rewind the tape and play it again, and adjust RL31 (L) and RL32 (R) so that the playback level differences of 1 kHz and 10 kHz is within 0 to ±1.0 dB.
3. After adjustment, record 1 kHz, 10 kHz and 12.5 kHz signals, and check that the playback level differences of these frequencies are as gives below.
4. Set the DOLBY switch to OFF, record 1 kHz and 12.5 kHz signals, and check that the playback level differences are as given below.
5. With the DOLBY switch OFF, check that the L/R channel balance for 10 kHz is less than 3 dB.

NOTE:
When 1 kHz level difference in DOLBY C mode is 1 dB or more compared to the monitor level, adjust RK31 (L) and RK32 (R) for the recording level adjustment previously, so that the level difference is within 1 dB.



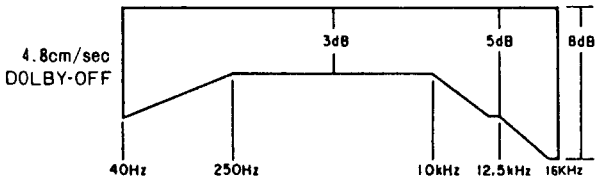
(CrO_2)

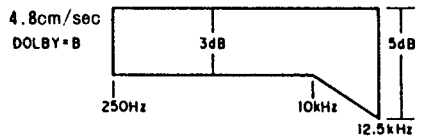
1. Load the AC-512 test tape and set the deck to the recording mode (input: 250 mV). Then reduce the level by 22 dB with the attenuator, and record 1 kHz and 10 kHz signals on the non-recorded section. (DOLBY C position)
2. Rewind the tape and play it again, and adjust the Bias semi-fixed resistor RL35 so that the playback level differences of 1 kHz and 10 kHz is within 0 to ±1 dB.
3. After adjustment, record 1 kHz, 10 kHz and 12.5 kHz signals, and check that the playback level differences are as given below.
4. Set the Dolby switch to OFF, and record 1 kHz and 12.5 kHz signals, and check that the playback level differences are as given below.
5. With the Dolby switch OFF, check that the L/R channel balance for 10 kHz is less than 3 dB.

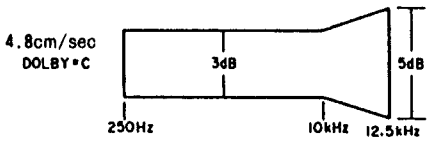


(METAL)

1. Load the AC-712 test tape and set the deck to the recording mode (input: 250 mV). Then reduce the level by 22 dB, and record 1 kHz and 10 kHz on the non-recorded section. (DOLBY C position)
2. Rewind the tape and play it, and adjust the BIAS semi-fixed resistor RL36 so that the 1 kHz and 10 kHz level difference is within 0 to ±1 dB.
3. After adjustment, record 1 kHz, 10 kHz and 12.5 kHz signals, and check the playback level differences are as given below.
4. Set the Dolby switch to OFF, and record 1 kHz and 10 kHz signals, and check that the playback level differences are as given below.
5. With the Dolby switch OFF, check that the L/R channel balance for 10 kHz is less than 3 dB.





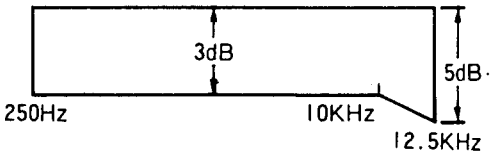


3.6 DUBBING REC/PLAY LEVEL MEASUREMENT

1. Load the MTT-150 test tape into DECK A and AC-212 test tape into DECK B.
2. Set the deck to the dubbing recording mode of DECK A to DECK B.
3. Rewind the AC-212 loaded into DECK B and play back. Then measure it at DOLBY test points T.P7 and T.P8 to check that the playback output level becomes 245 mV ±1 dB.

3.7 DUBBING REC/PLAY FREQUENCY RESPONSE MEASUREMENT

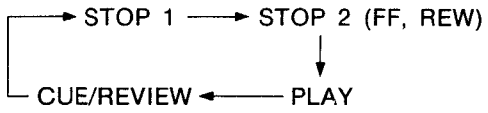
1. Load the MTT-256 test tape into DECK A and AC-212 into DECK B.
2. Set the deck to the DECK A to DECK B dubbing recording mode.
3. Rewind the AC-212 loaded into DECK B and play it back, and check that the level differences of 1 kHz and 12.5 kHz is as shown in the figure below.



4. DESCRIPTION OF MICROPROCESSOR AND PERIPHERAL CIRCUITRY OPERATION

4.1 MECHANISM

Selection of the forward or reverse directions is possible depending on whether the solenoid trigger is short or long when switching to the lay mode. The direction of the head for the head position for the cue mode is the same as the direction of the head in the play mode before switching to the cue mode.



There are four modes – stop 1, stop 2, play, and cue/review. Their positions change in cycles according to the power assist operation through the rotation of the intermittent gear of the solenoid trigger and flywheel. Four the cue/review position, voltage is applied to the solenoid and held.

Fast-forward and rewind are selected by rotating the motor at a high speed in the forward or reverse direction at the stop 2 position. At the stop position, the head is always in the forward direction.

4.2 INITIAL CHECK

1. The reverse mode indicator indicates ⇄. When the REV MODE selector button is pressed, the indicator switches in the order ↻, →, ⇄.
2. The tape direction indicator indicates FWD. PLAY or REV PLAY depending on the direction of the tape before the power was turned off.
3. When the mechanism is stopped in the play mode, it is automatically set to the stop mode after the power is turned on.
4. When the mechanism is in a mode other than stop 1, stop 2, or play, if the power is turned on while pressing the STOP key, the mechanism is initialized and set to the stop mode.

4.3 MICROPROCESSOR OPERATION CHECK

VDD, POWER DOWN, and RES Power ON/OFF Timing

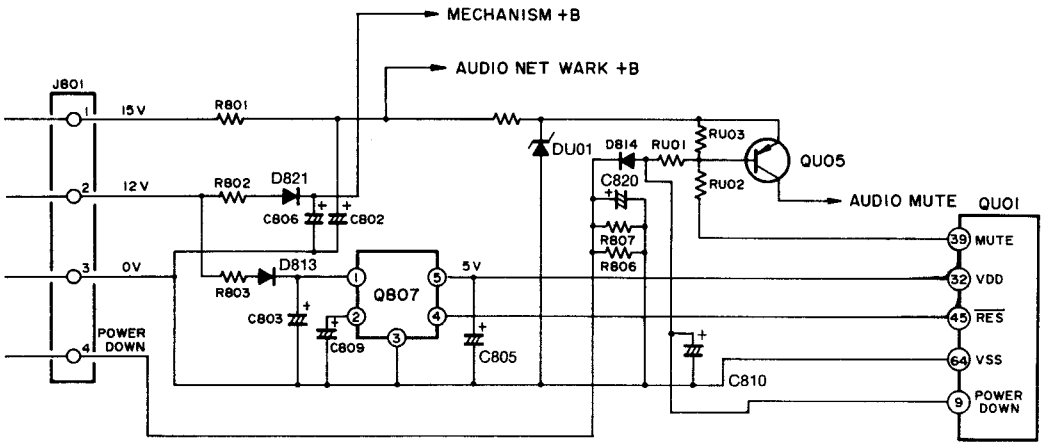


Fig. 4-1

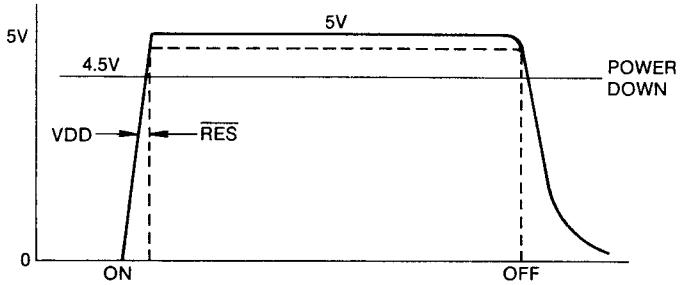


Fig. 4-2

The microprocessor's VDD, POWER DOWN, and $\overline{RES}$ pins' rise and fall characteristics are shown on Figure 4-2, their diagrams on Figure 4-1.

4.3.1 Description of Operation of Parts

1) Q807 regulator with reset function

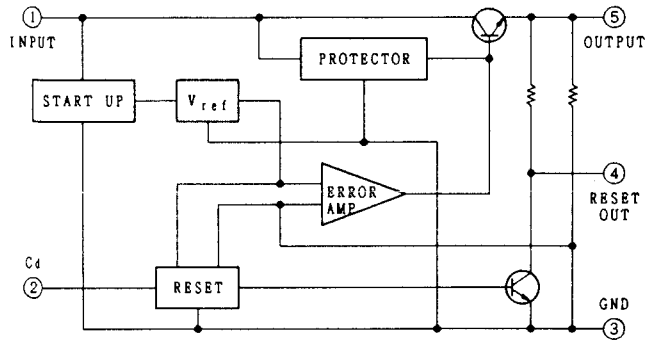


Fig. 4-3

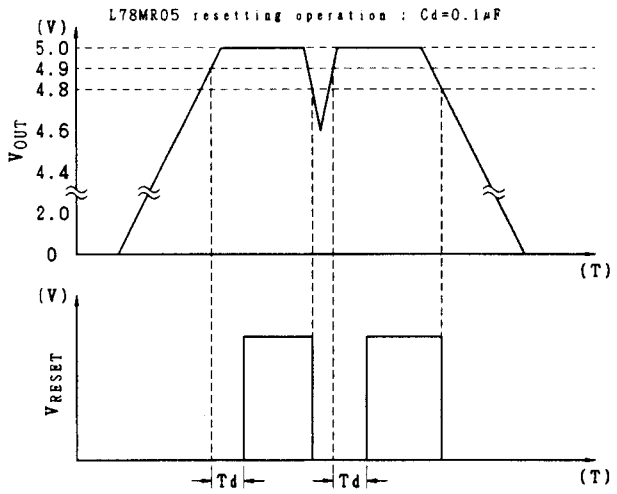


Fig. 4-4

The microprocessor's RES input is set to be slower for a rise (power on), faster for a fall (power off). The time is determined by C809 connected to IC pin 2. The timing is shown on Figure 4-4.

2) C803, R803, and D813
These are for microprocessor VDD backup. They back up the microprocessor for the necessary time to set the mechanism to the initial state (stop) when the power is turned off.

3) C806, R802, and D821
These are for mechanism power backup. They backup the solenoid and capstan motor for the necessary time to set the mechanism to the initial state (stop) when the power is turned off.

4) C810, R806, RU01, and D814
These produce the microprocessor's INT signal. The stop conditions for a power failure are set at the microprocessor's INT pin and the stop operation is set by "H" → "L". To achieve fast rising characteristics when the power is off, ripple filter C810's charge is discharged via R806.

5) RU02, RU03 and QU05
These output the audio mute signal when the power is turned on and off. When turned on, transistor QU05 is on while C808 is being charged via RU04.
When turned off, it turns on immediately by charging to R806 and prevents popping noise.

4.3.2 Key Matrix

Pin No	⑰	⑱	⑲	⑳	㉒	㉓
㊹	REVERS MODE	DECK A		REC	FWD PLAY	REVERS PLAY
㊸	QMS	DECK B	CONTROLS PLAY	REC MUTE	FF	REW
㊷		HI-SPEED DUBBING	NORMAL DUBBING		PAUSE	STOP
㊶					BRANK SKIP	

Chart 4-1

4.4 MOTOR DRIVE CIRCUIT

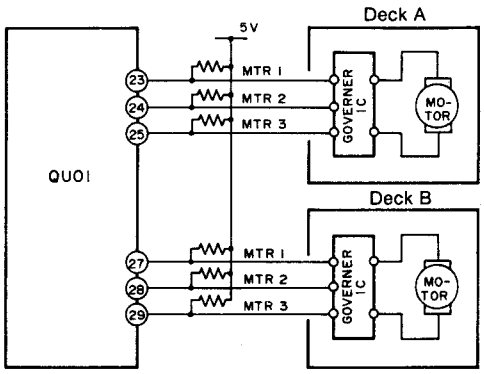


Fig. 4-5

The motor speed and direction of rotation are controlled when the governor IC in the mechanism receives the control signals from the microprocessor.
The control signals and motor modes are as follows:

Mode		MTR 1	MTR 2	MTR 3
Stop		L	L	L
Brake		L	H	H
Normal speed play	(+1,600rpm)	H	L	H
High speed play	(+3,200rpm)	H	L	L
Fast-forward and cue	(+5,300rpm)	H	H	H
Rewind and review	(−5,300rpm)	H	H	L
	(−1,600rpm)	L	L	H
	(−3,200rpm)	L	H	L

+ direction: Motor rotates counterclockwise as seen from front
− direction: Motor rotates clockwise as seen from front

Chart 4-2

High Speed

High speed can be set by short-circuiting JM01 and JM11 during normal speed playback.
When adjusting the speed, first adjust the normal speed, then the high speed.

NOTE:
When set to the play mode with JM01 or JM11 short-circuited, the mechanism will malfunction, so be sure to set to the normal play mode before short-circuiting them.

4.5 SOLENOID DRIVE CIRCUIT

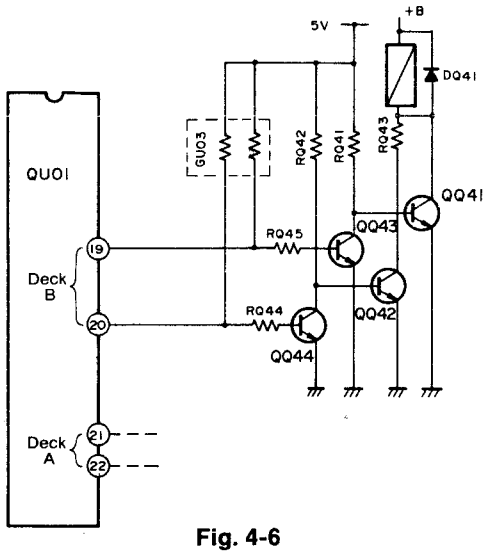


Fig. 4-6

The circuit is the same for mechanism (A) ㉑ and ㉒.

In order to change the mechanism mode, power is supplied to the solenoid for a fixed period of time and the cam gear and flywheel gear are engaged.
The mechanism mode changes in the following cycle each time the solenoid is pulled:

→STOP 1→STOP 2 (F.F. REW)→PLAY→CUE/REVIEW→

RQ43 prevents the solenoid from heating when it is pulled in continuously such as for the cue/review mode.

4.6 OTHER INPUTS AND OUTPUTS

4.6.1 Remote Control, EASY OUT, SYNC REC

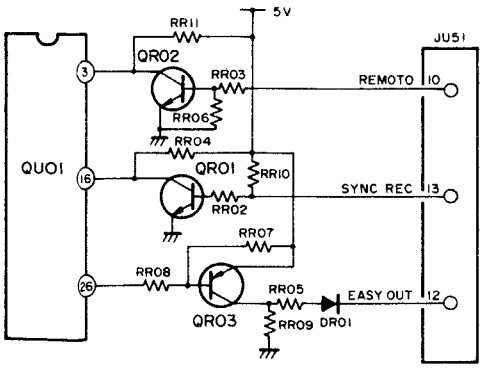


Fig. 4-7

1) Remote Control
When the remote control switch is pressed, the signal from the remote control unit is input at JU51 pin ⑩, and the unit operations according to the instructions. The indicators flicker momentarily while a remote control signal is being input because the microprocessor is reading the signal.

2) EASY
QU01 pin ㉖ is normally "H", but during the play and dubbing modes, a pulse is output. RC-5 command 1853 is output whether Deck A or Deck B is playing.

3) SYNC REC
When SYNC REC input pin jack JU51 pin ⑬ is "L", QR01 turns on, QU01 pin ⑯ becomes "H", and the microprocessor performs the SYNC REC operation. However, the following conditions must be met: the SYNC REC button must be ON, and the mechanism must be in the REC PAUSE mode.

4.6.2 QMS

When in the stop or play modes the QMS button is pressed the number of times equivalent to the number of selections to be skipped and the button for the desired direction is pressed (◁◁, ▷▷), the beginning of the specified selection is found. The LED lights when it is pressed. The QMS circuit converts the playback signal into a form which the microprocessor can read via a comparator. The level is set by the QMS circuit, and the time which is used to judge a section between selections is set in the microprocessor.

1) Play speed and time constant
If the fast-forward and rewind time is 100 seconds, the normal play and cue/review speed is 11 times at the beginning of the tape, 25 times at the end of the tape. As the time between selections during playback is normally set at 4 seconds, the time between selections for the cue/review mode is 160 to 370 ms.

2) Microprocessor setting
The mechanism microprocessor used in this unit uses the time reading method for sections between selections, so 3 seconds is needed for reading in the play mode, 120 ms for reading in the cue/review mode.

3) Setting of judging level
The QU01 output as the characteristic of changing from "L" to "H" according to the levelof recording onto the tape.

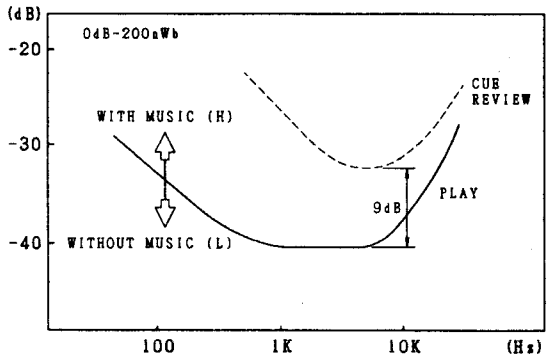


Fig. 4-8

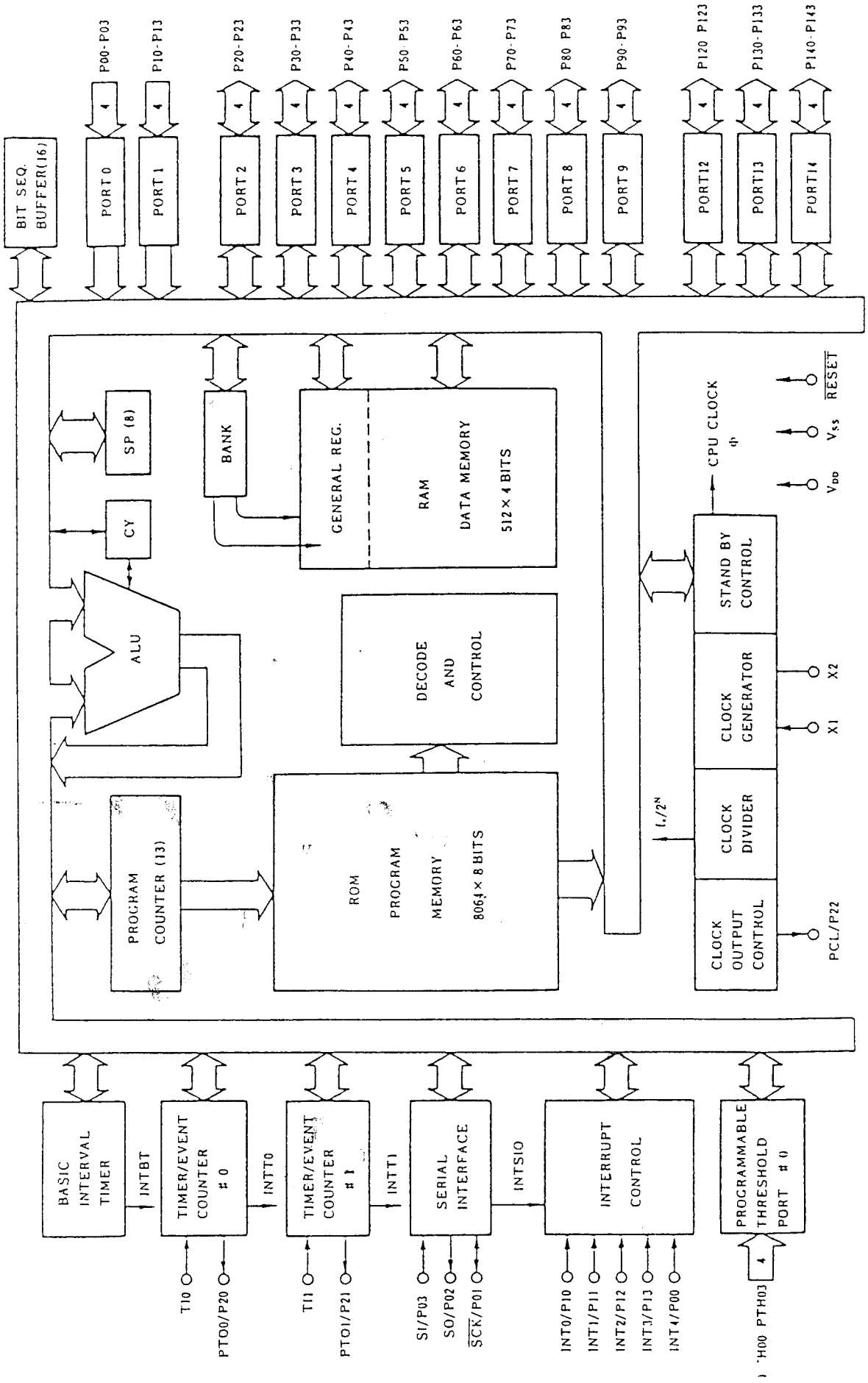
The frequency response is different during the play and search modes to prevent malfunction with music signals. During playback, QB02 is on and the frequency response is wider. Switching between search and playback is performed at QU01 pin ㊵, which is "L" during playback.

4.6.3 Reel Pulse

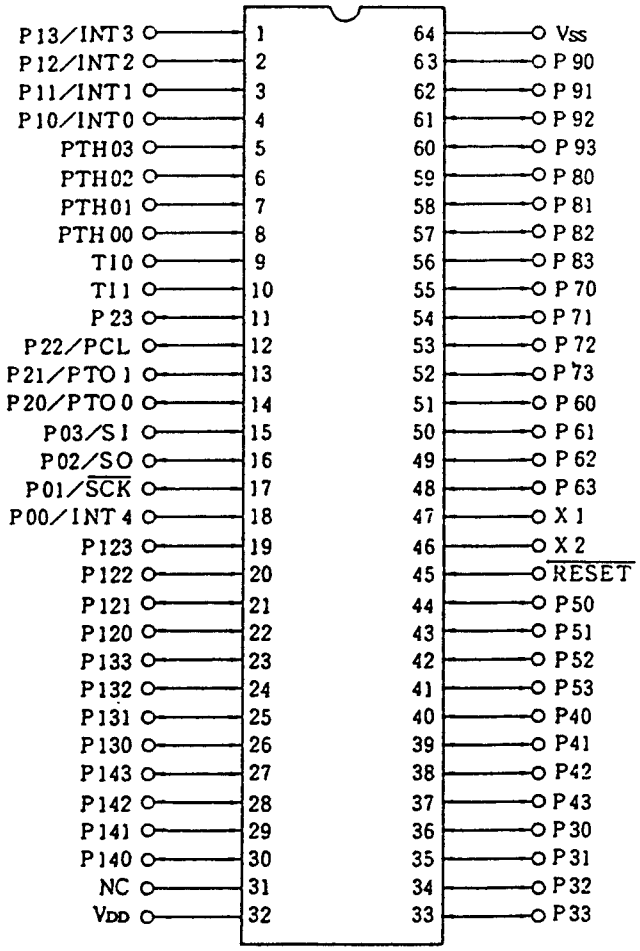
The reel rotation sensor output is connected to QU01 pins ④ and ⑱, and this output is used for auto shut-off, memory rewind stop, and QMS search correction. Auto shut-off functions 4 seconds after the reel pulse rotation output stops.

4.7 μPD75108 (QU01) I-chip 4-bit Microprocessor

• μPD75108 Block Diagram



• Pin Connections



P00—P03	: Port 0	$\overline{SCK}$	: Serial clock input/output
P10—P13	: Port 1	SO	: Serial output
P20—P23	: Port 2	S1	: Serial input
P30—P33	: Port 3	PTO0, PTO1	: Timer output
P40—P43	: Port 4	PCL	: Clock output
P50—P53	: Port 5	PTH00, PTH03	: Comparator input
P60—P63	: Port 6	INT0, INT1	: External vector interrupt input
P70—P73	: Port 7	INT2, INT3	: External test input
P80—P83	: Port 8	INT4	: External vector interrupt input
P90—P93	: Port 9	T10, T11	: Timer input
P120—P123	: Port 12	X1, X2	: Oscillator pins
P130—P133	: Port 13	$\overline{RESET}$	: Reset input
P140—P143	: Port 14	NC	: Not connected

4.7.1 Pin Functions

Port Pins

Pin Name	Input/Output	Also	Function	When Reset
P00	Input	INT4	4-bit input port (PORT 0)	Input
P01	Input/output	$\overline{SCK}$		
P02	Input/output	SO		
P03	Input	SI		
P10	Input	INTO	4-bit input port (PORT 1)	Input
P11		INT1		
P12		INT2		
P13		INT3		
P20	Input/output	PT00	4-bit input/output port (PORT 2) *2	Input
P21		PT01		
P22		PCL		
P23		—		
P30-P33	Input/output	—	Programmable 4-bit input/output port (PORT 3), input/output settable in units of bits *2	Input
P40-P43	Input/output	—	4-bit input/output port (PORT 4) *2	Input
P50-P53	Input/output	—	4-bit input/output port (PORT 5) *2	Input
P60-P63	Input/output	—	Programmable 4-bit input/output port (PORT 6), input/output settable in units of bits *2	Input
P70-P73	Input/output	—	4-bit input/output port (PORT 7) *2	Input
P80-P83	Input/output	—	4-bit input/output port (PORT 8) *2	Input
P90-P93	Input/output	—	4-bit input/output port (PORT 9) *2	Input
P120-P123	Input/output	—	N-ch open drain 4-bit input/output port (PORT 12), pull-up resistors settable in units of bits (mask option), 12 V resistance with open drain *2	*1 Input
P130-P133	Input/output	—	N-ch open drain 4-bit input/output port (PORT 13), pull-up resistors settable in units of bits (mask option), 12 V resistance with open drain. *2	*1 Input
P140-P143	Input/output	—	N-ch open drain 4-bit input/output port (PORT 14), pull-up resistors settable in units of bits (mask option), 12 V resistance with open drain *2	*1 Input

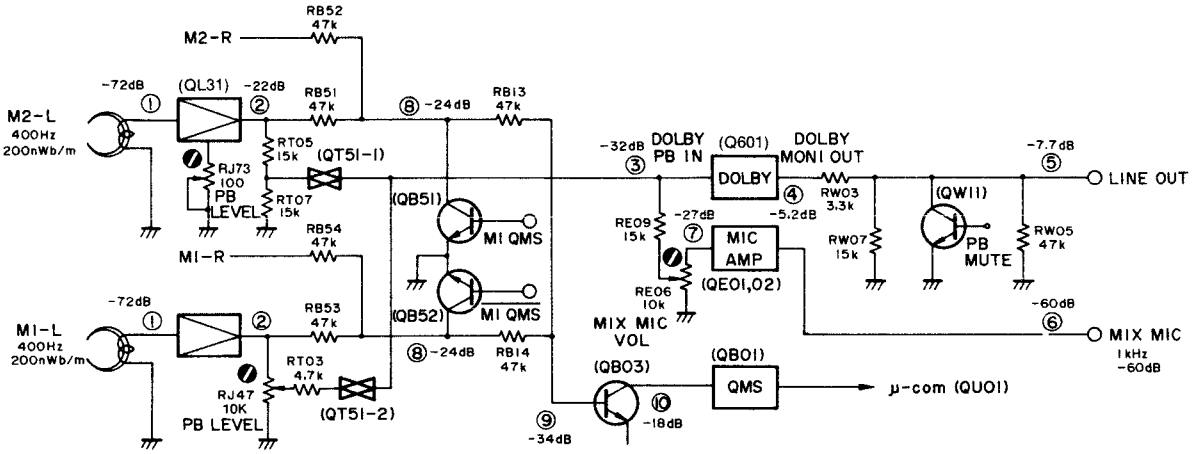
*1: Open drain .....high impedance
Built-in pull-up resistor ....high level
*2: Can directly drive LED

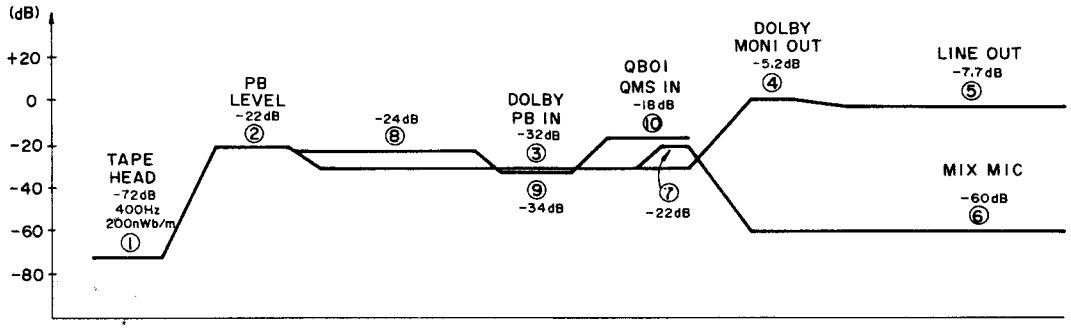
Non-port pins

Pin Name	Input/Output	Also	Function	When Reset
PTH00-PTH03	Input	—	Threshold voltage variable 4-bit analog input port	—
T10	Input	—	Timer/event counter external even pulse input pin, or edge detection vector interrupt input pin, 1-bit input also possible	—
T11				
PTO0	Input/output	P20	Timer/event counter output pin	Input
PTO1		P21		
$\overline{SCK}$	Input/output	P01	Serial clock input/output pin	Input
SO	Input/output	P02	Serial data output pin	Input
SI	Input	P03	Serial data input pin	Input
INT4	Input	P00	Edge detection vector interrupt input pin (edge detection at rise and fall)	Input
INT0	Input	P10	Edge detection vector interrupt input pin (detection edge selectable)	Input
INT1		P11		
INT2	Input	P12	Edge detection testable input pin (rise edge detection)	Input
INT3		P13		
PCL	Input/output	P22	Clock output pin	Input
X1, X2		—	System clock oscillation crystal/ceramic connection pin, for external clock, input to X1, opposite phase input to X2	
$\overline{RESET}$	Input	—	System reset input pin (low level active)	
NC		—	No connection	
VDD		—	Normal power pin	
VSS		—	GND potential pin	

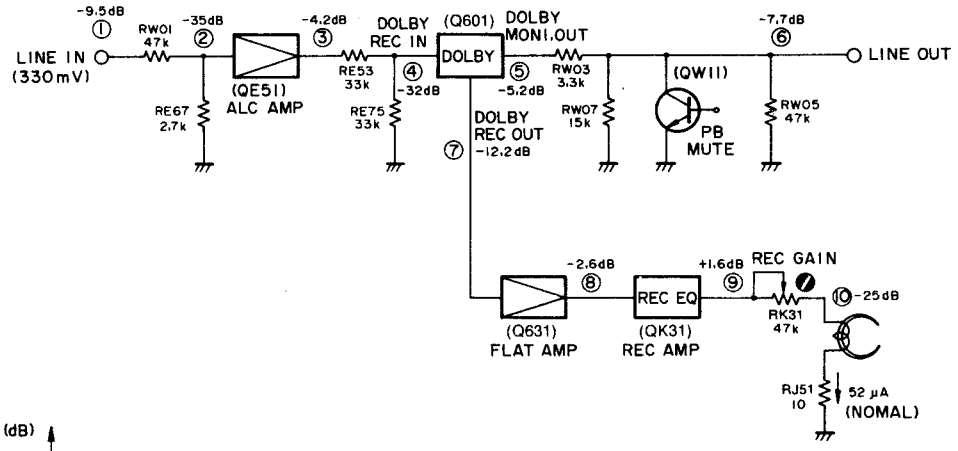
5. LEVEL DIAGRAM

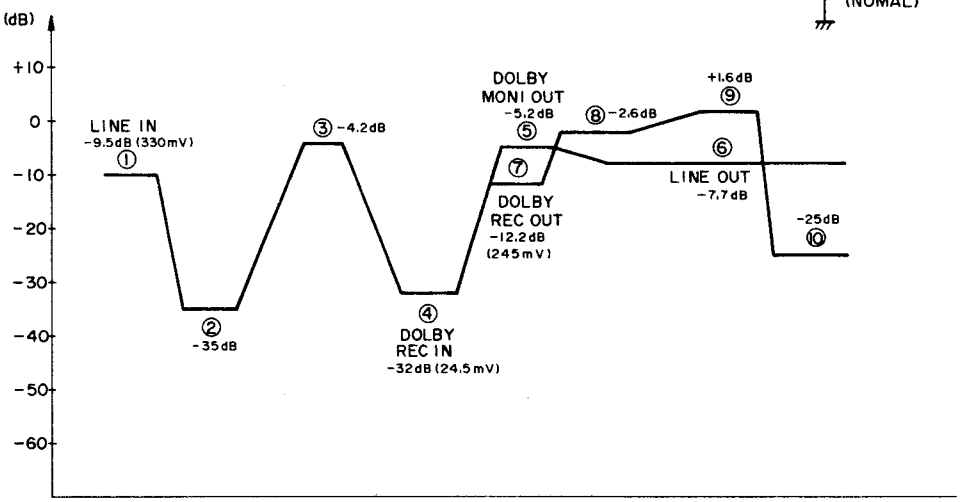
5.1 PLAY MODE



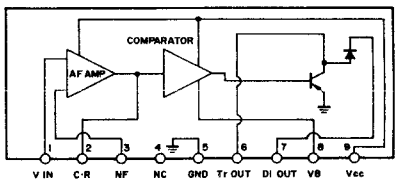


5.2 RECORDING MODE

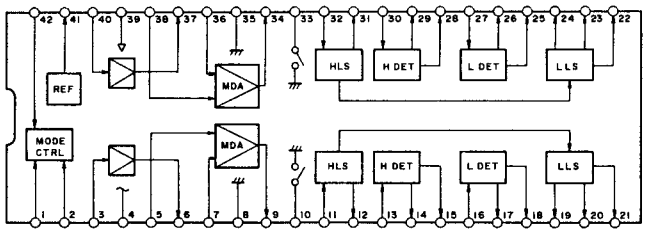




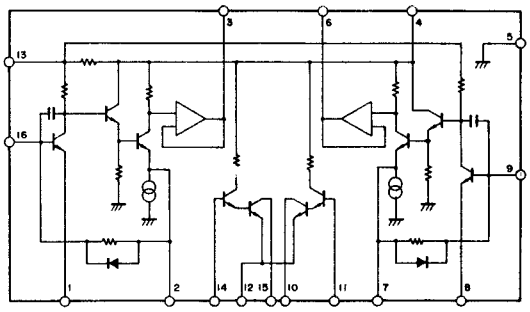
QB01



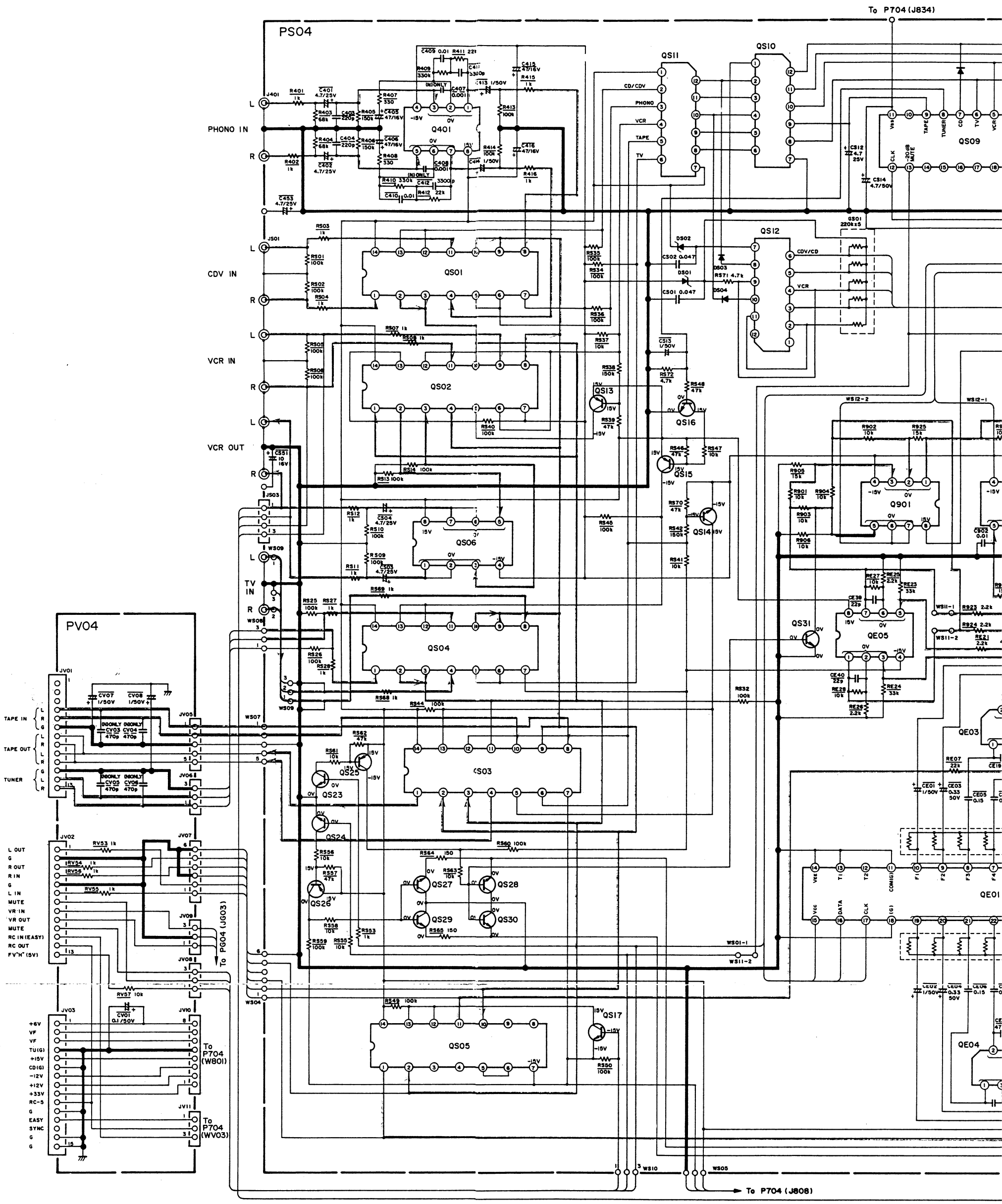
Q601



QE51



6. SCHEMATIC DIAGRAM



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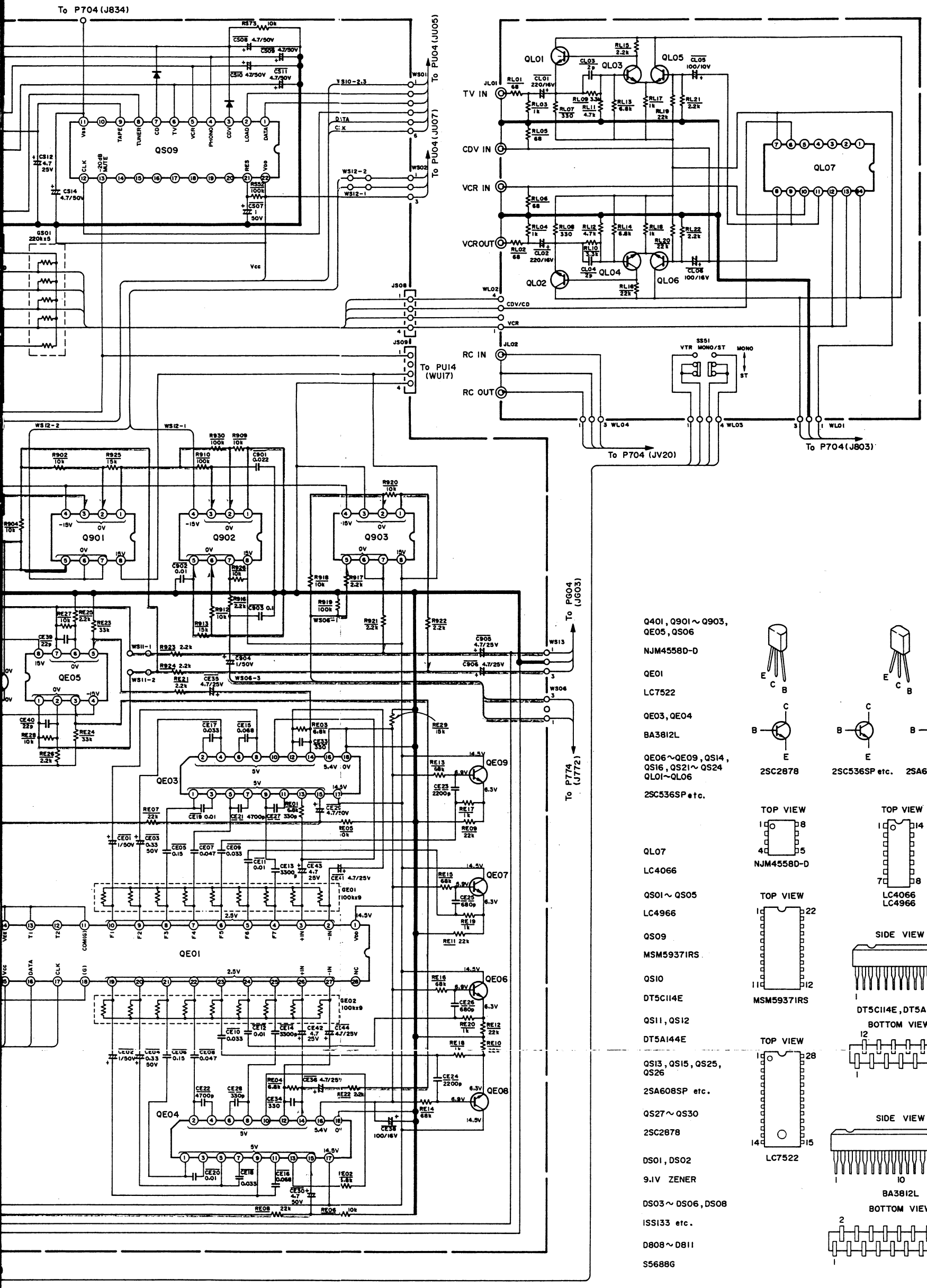
NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

Components and wiring are subject to change for modification without notice.



Q401, Q901 ~ Q903,
QE05, QS06

NJM4558D-D

QE01

LC7522

QE03, QE04

BA3812L

QE06 ~ QE09, QS14,
QS16, QS21 ~ QS24
QL01 ~ QL06

2SC536SP etc.

QL07

LC4066

QS01 ~ QS05

LC4966

QS09

MSM5937IRS

QS10

DT5C114E

QS11, QS12

DT5A144E

QS13, QS15, QS25,
QS26

2SA608SP etc.

QS27 ~ QS30

2SC2878

DS01, DS02

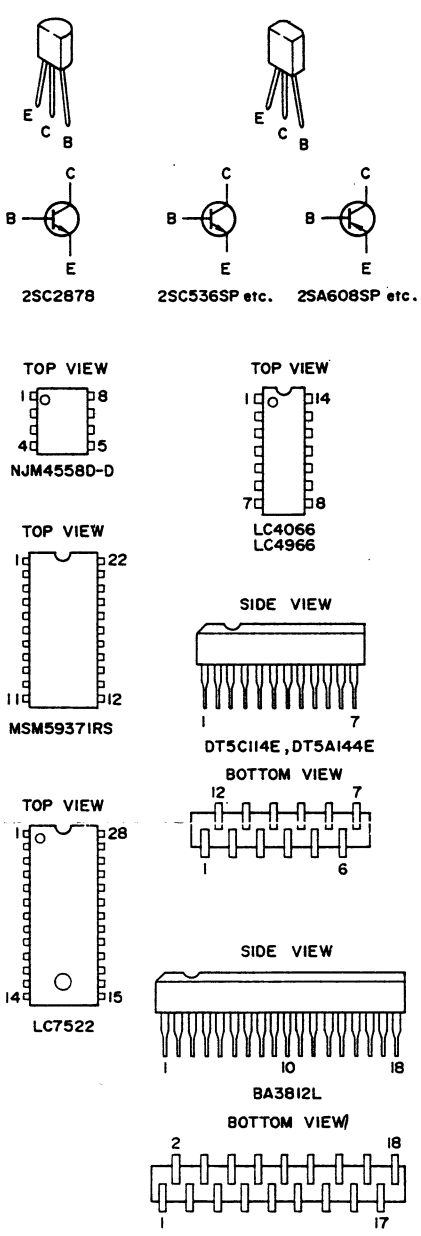
9.1V ZENER

DS03 ~ DS06, DS08

1SS133 etc.

D808 ~ D811

S5688G



MZ 1919

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REPAIR BY ANY MARANTZ**

Kind of Common Parts

RESISTOR

R*** (1) GD05 .... 140, Carbon film fixed resistor, ±5% 1/4W
R*** (2) GD05 .... 160, Carbon film fixed resistor, ±5% 1/6W

C*** : **CERAMIC CAP.**

(1) DD1 ..... 370, Ceramic condenser,
disc type (titan condenser)
Temp. coeff. P350 to N1000 50V

C*** : **CERAMIC CAP.**

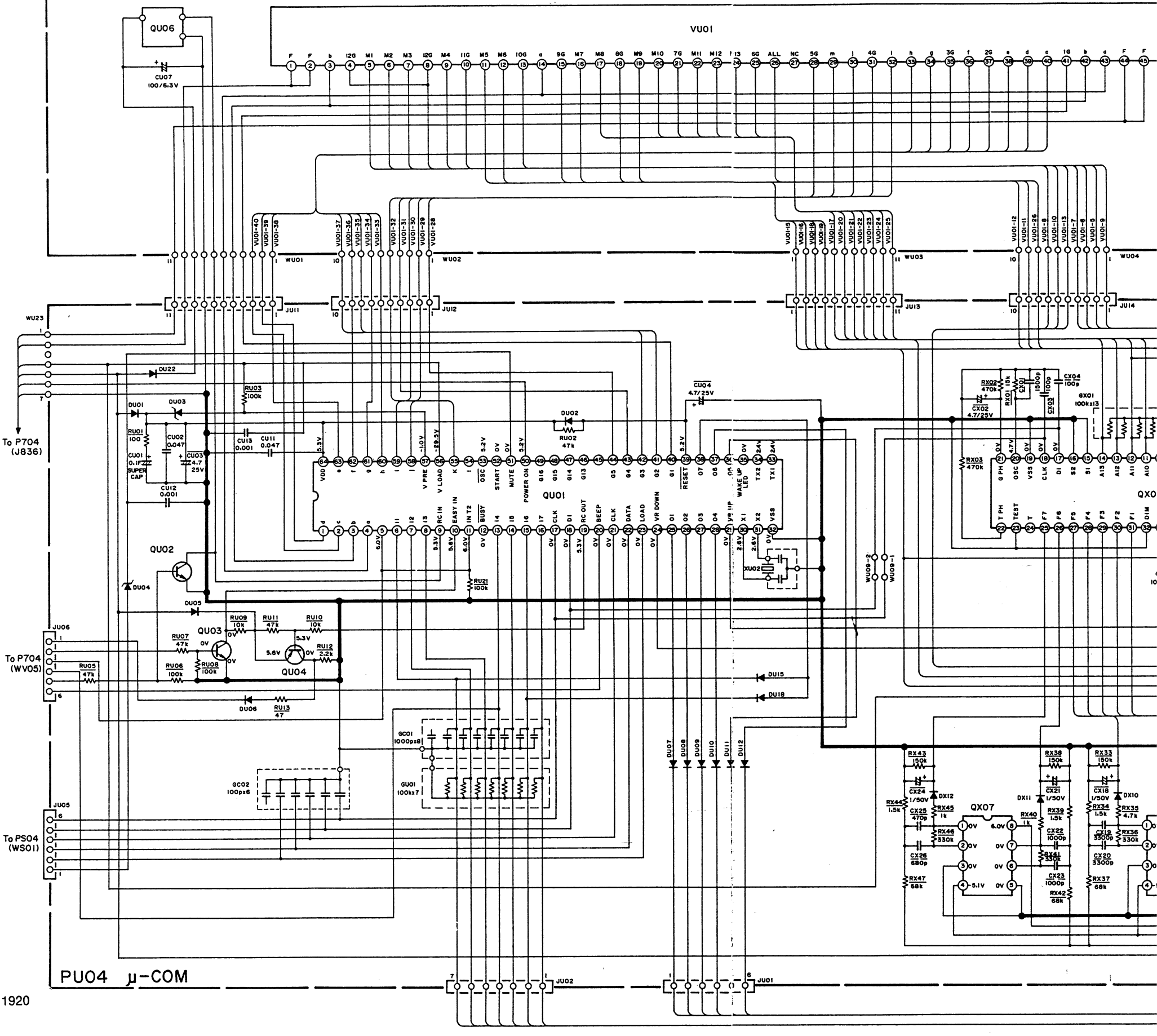
(1) DK16 .... 300, High dielectric constant ceramic
condenser, disc type (titan variable)
Temp. chara. 2B4 50V

C*** : **ELECTROLY CAP. (⫫)/FILM CAP. (=)**

(1) EA ..... 10, Electrolytic condenser,
one-way lead type, tolerance ±20%
(2) DF15 .... 350, Plastic film condenser,
one-way type, Mylar, ±5% 50V

* In case of ordering the common parts, please establish the correct parts number of 10 figures by the procedure "ASSIGNMENT OF COMMON PARTS CODES"

PU14 FIP TACT SWITCH



MZ 1920

QU01
μPD-75208CW/G

QU02,QU03,QX02
2SC536SP etc.

QU04
2SA608SP etc.

QU05
LB1630

QU06
PHOTO UNIT

QX01
LC7565

QX05～QX08
NJM4558D

QX09
TA76

DG01,DX13～DX17
LT3D88

DU01,DU02,DU05～DU13
DU22,DX01～DX12
1SS133 etc.

DU03
MTZJ7.5C

DU04
3.9V ZENER

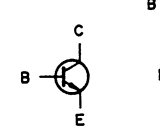
DU19,DU20
S5688G

DX18
5.1V ZENER

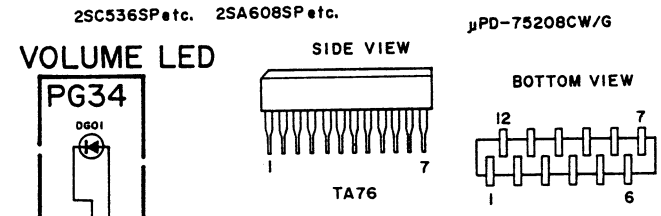
TOP VIEW
NJM4558D-D
LB1630

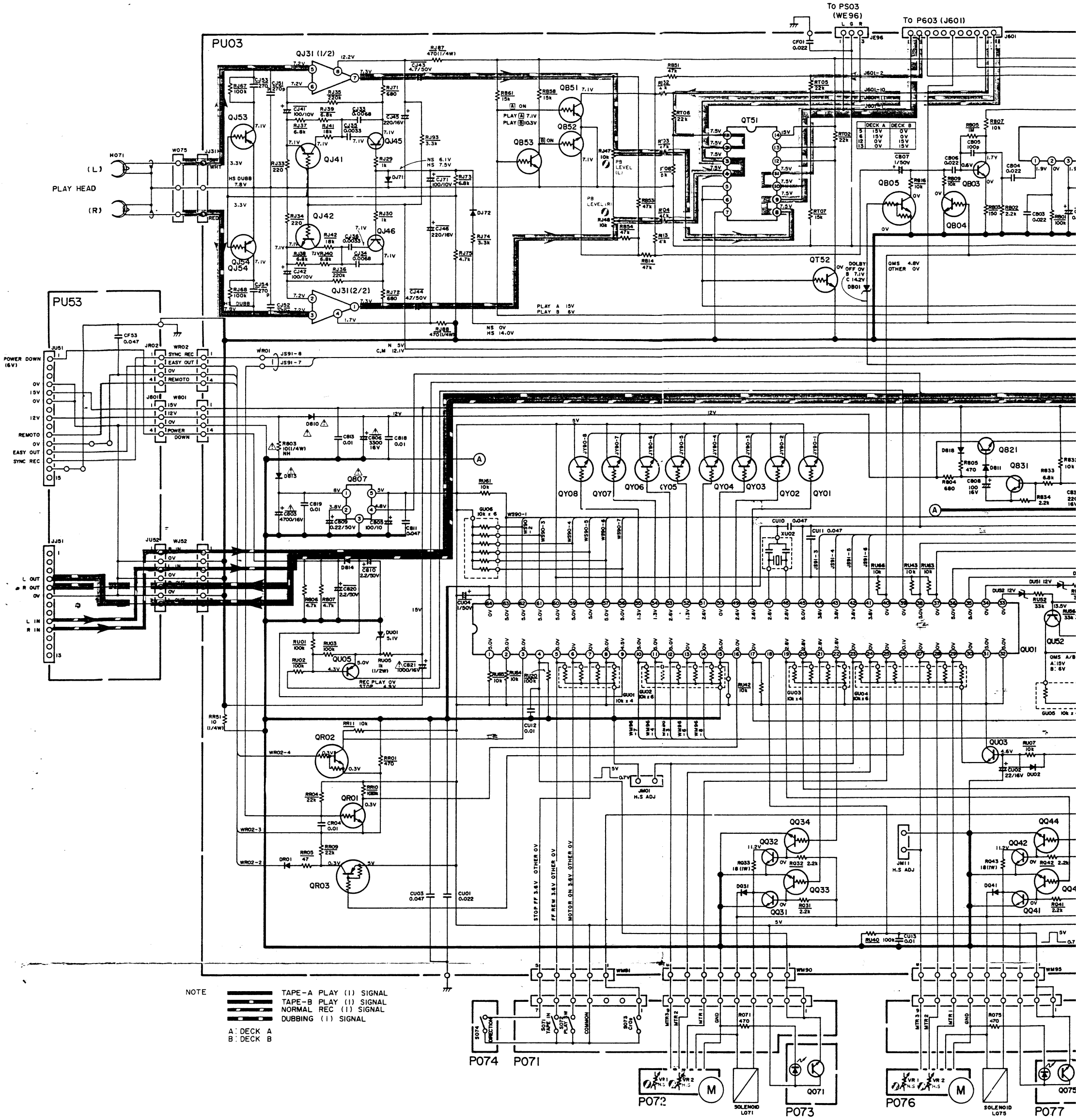
TOP VIEW
LC7565

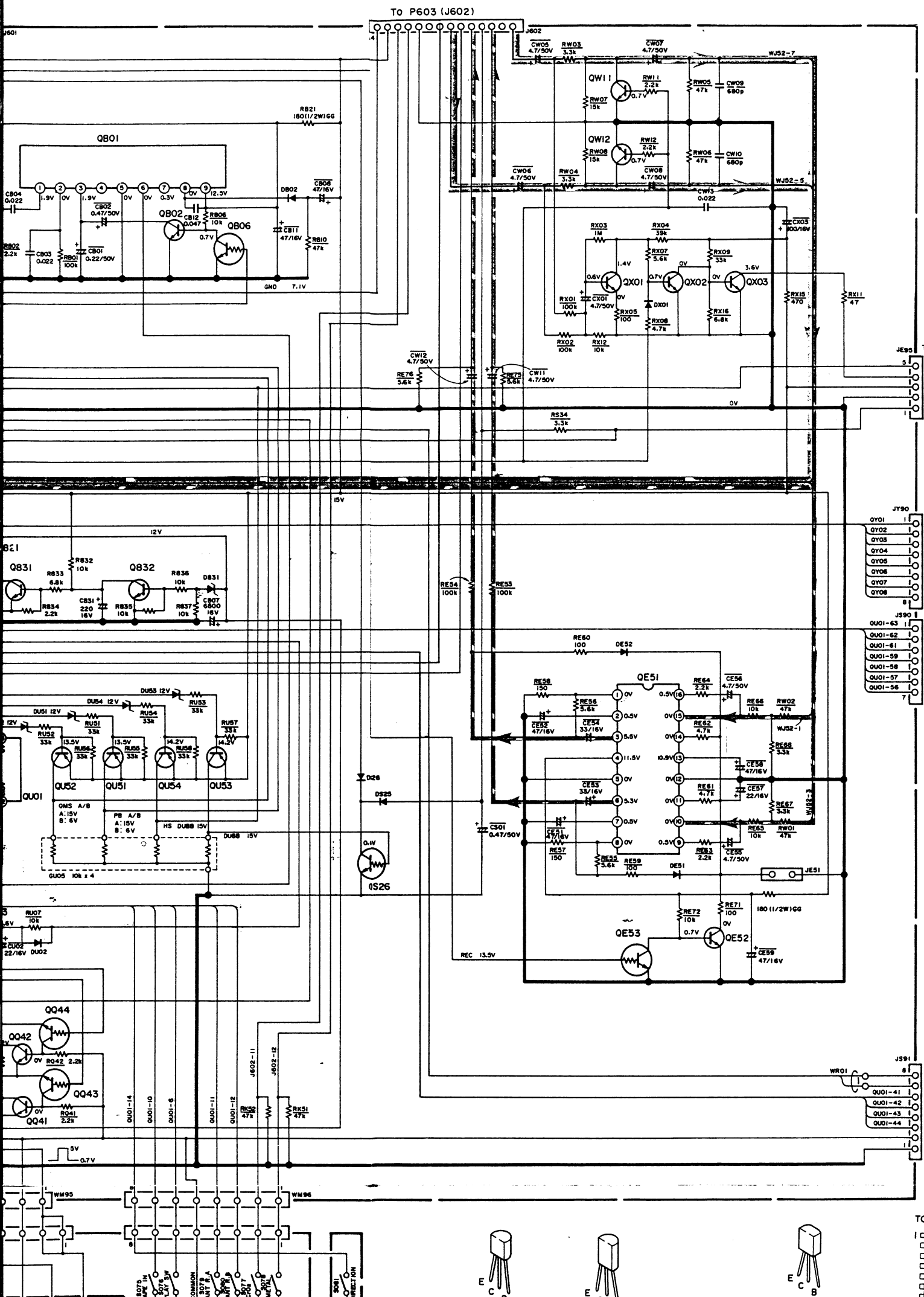
TOP VIEW
μPD-75208CW/G



2SC536SP etc. 2SA608SP etc.




PU03
PU53
To PS03 (WE96)
To P603 (J601)
PLAY HEAD
(L)
(R)
QJ31 (1/2)
QJ31(2/2)
QJ53
QJ41
QJ45
QJ42
QJ46
QJ54
QT51
QT52
QB05
QB03
QB04
QB51
QB52
QB53
Q807
QU05
QR01
QR02
QR03
QU01
QU02
QU03
QY01
QY02
QY03
QY04
QY05
QY06
QY07
QY08
Q821
Q831
QQ31
QQ32
QQ33
QQ34
QQ41
QQ42
QQ44
QU52
DECK A DECK B
5 15V 0V
6 15V 0V
12 0V 15V
13 0V 15V
PLAY A 15V
PLAY B 6V
NS 0V
HS 14.0V
POWER DOWN (6V)
0V
15V
0V
12V
REMOTO
0V
EASY OUT
SYNC REC
L OUT
R OUT
0V
L IN
R IN
SYNC REC
EASY OUT
REMOTO
POWER DOWN
STOP FF 3.6V OTHER 0V
FF REW 3.6V OTHER 0V
MOTOR ON 3.6V OTHER 0V
NOTE
TAPE-A PLAY (I) SIGNAL
TAPE-B PLAY (I) SIGNAL
NORMAL REC (I) SIGNAL
DUBBING (I) SIGNAL
A : DECK A
B : DECK B
P074
P071
P072
P073
P076
P077
SOLENOID L071
SOLENOID L075
M
Q071
Q075

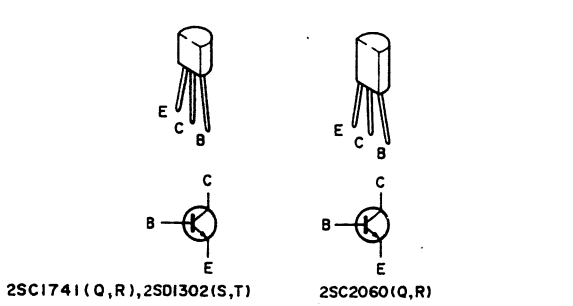


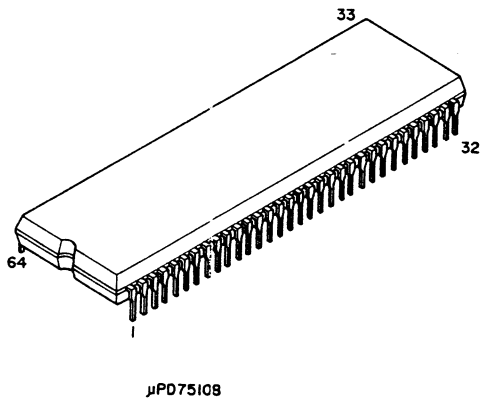
Q071, Q075	DB13,DQ31,DQ41
GP2S098	RL103E
Q807	DB14,DE51,DE52,DB11
L78MR05	DJ71,DJ72,DR01,DB18
	DS25,DS26,DU02
QB01	DX01,DB02
BA335	ISS133,etc.
	DU01
QB02,QB03,QE52,QE53	RD5.1JB2 5.1V
QU03,QX02,QX03,Q831,Q832	MTZJ5.1B
2SC536SP etc.	DU51~DU54
QB05	RD12JB2 12V
DTC114ES	MTZV12B
QE51	DB01
8A343	8.2V
QJ31	DB31
NJM-2068-DD	RD6.8JB2 6.8V
QU01	MTZJ6.8B
μPD75108CW	DB10
QU51~QU54,QU05,QJ45	ISR35-200
QJ46	QB21
2SA608SP, etc.	2SD313
QQ31,QQ41	
2SC2060(Q,R)	
QQ32,QQ42	
2SC1741(Q,R)	
QT51	
TC40668P	
QW11,QW12	
2SD1302(S,T)	
QX01	
2SC1740(R,S)	
QJ53,QJ54	
DTA144TS	
QE53,QQ33,QQ34,QQ43	
QQ44,QB04,QB06,QS26	
QB51~QB53,QY01~QY08	
DTC114TS	
QR01,QJ41,QJ42,QT52	
DTC144TS	
QR02	
DTC144ES	
QR03	
DTA144ES	

TOP VIEW

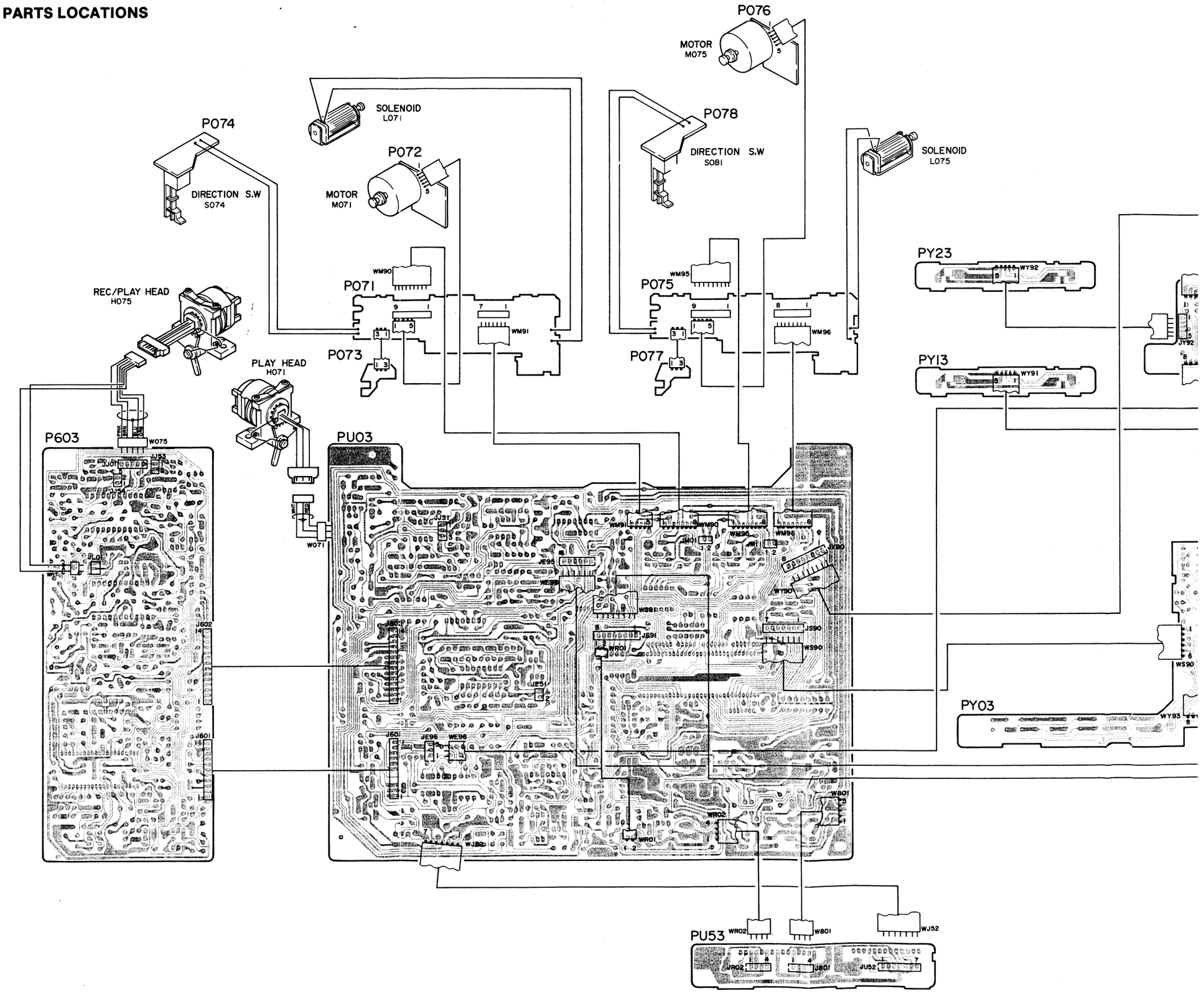
TC40668P

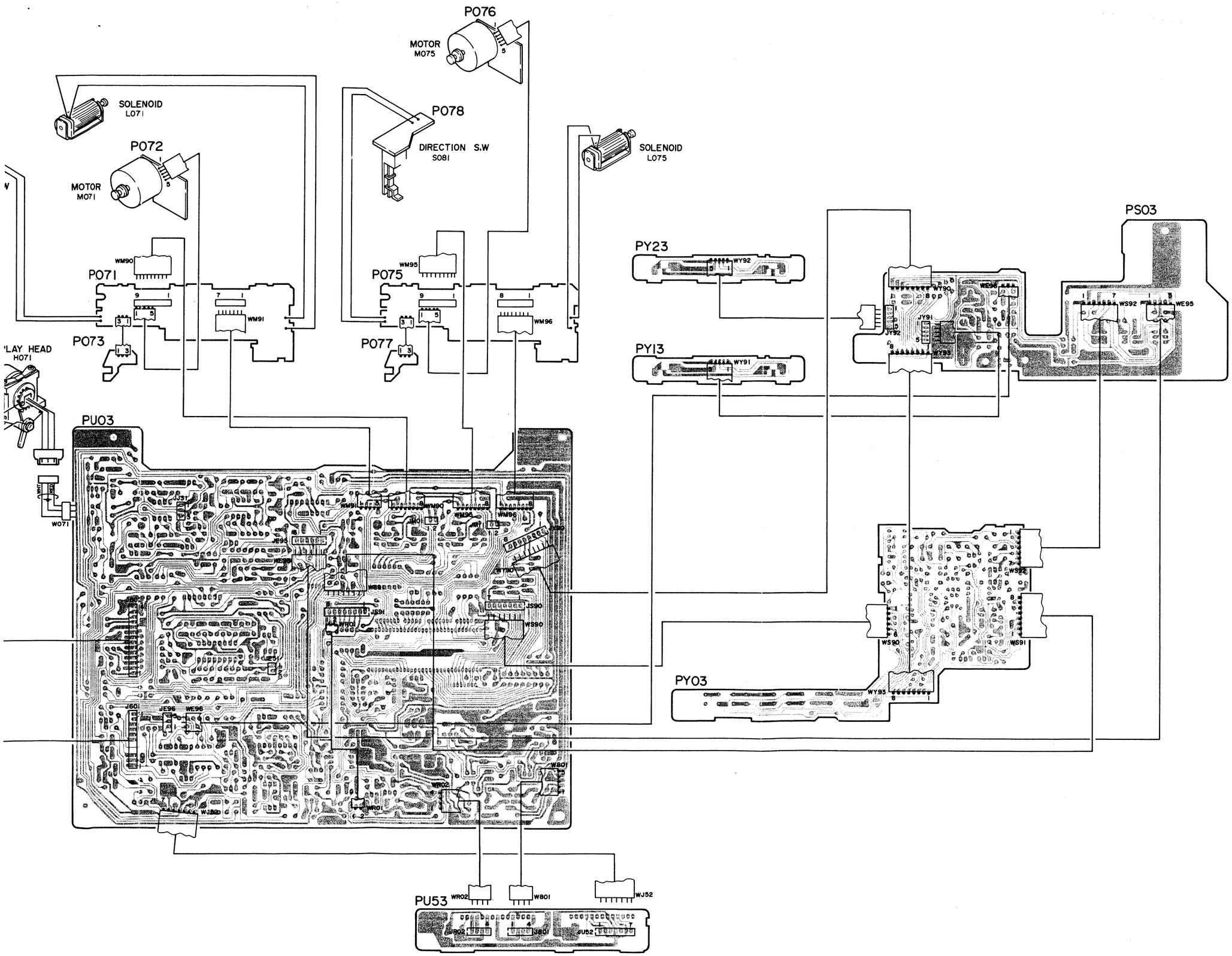
B C E



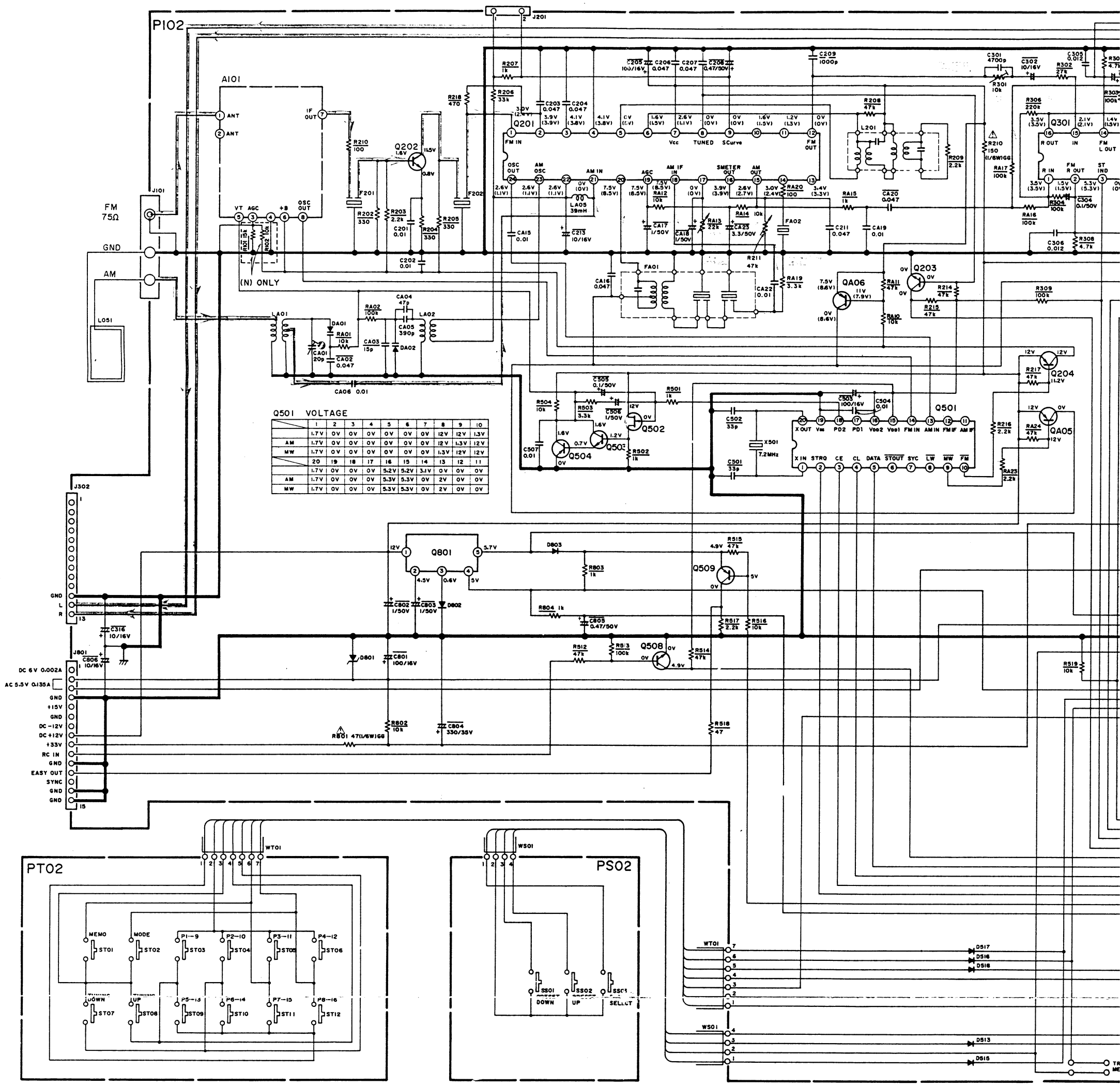


7. PARTS LOCATIONS




P076
MOTOR
M075
SOLENOID
L071
P072
MOTOR
M071
P078
DIRECTION S.W
S081
SOLENOID
L075
WM90
P071
WM95
P075
WM91
WM96
P073
P077
PLAY HEAD
H071
PU03
PY23
WY92
PY13
WY91
PS03
WS92
WE95
WS90
WS91
PY03
WY93
PU53
WR02
W801
WJ52

7. SCHEMATIC DIAGRAM



Q501 VOLTAGE

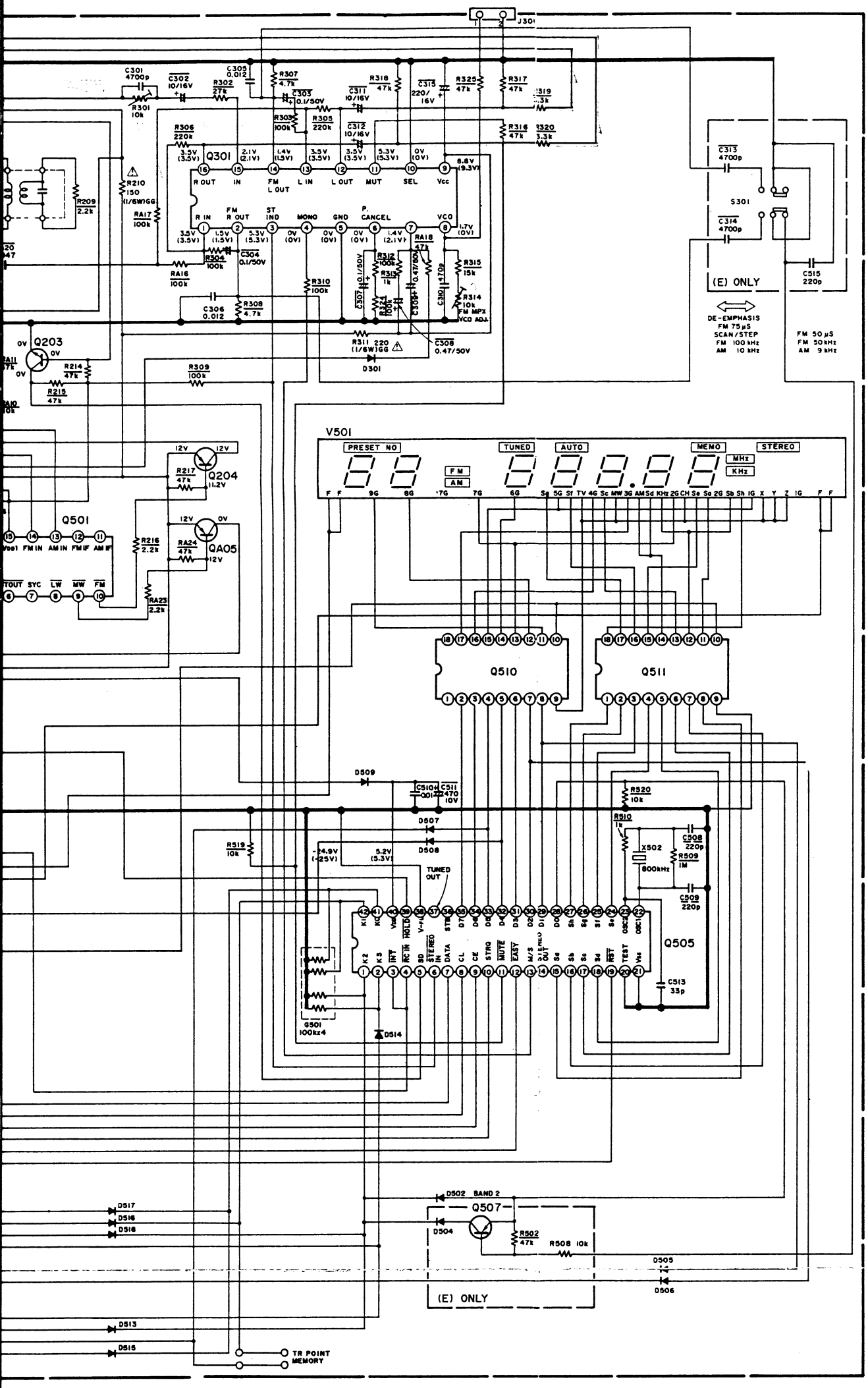
	1	2	3	4	5	6	7	8	9	10
	1.7V	0V	0V	0V	0V	0V	0V	12V	12V	1.3V
AM	1.7V	0V	0V	0V	0V	0V	0V	12V	1.3V	12V
MW	1.7V	0V	0V	0V	0V	0V	0V	1.3V	12V	12V
	20	19	18	17	16	15	14	13	12	11
	1.7V	0V	0V	0V	5.2V	5.2V	3.1V	0V	0V	0V
AM	1.7V	0V	0V	0V	5.3V	5.3V	0V	2V	0V	0V
MW	1.7V	0V	0V	0V	5.3V	5.3V	0V	2V	0V	0V

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

Components and wiring are subject to change for modification without notice.

"S
AN
RE

R*
R*
C*
C*

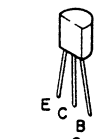


Q201
HC10222030
LA1266 FM/AM IF

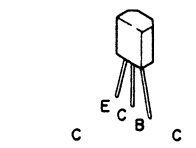
Q202
HT310471C0
2SC1047 (C)

Q203,Q503,Q504
Q508
HT30001000
2SC536SP(F,G) etc.

Q507,Q509,QA06
HT10001000
2SA608SP(F,G) etc.

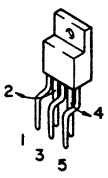


2SC1047 (C)



2SC536SP(F,G)etc. 2SA608SP(F,G)etc.

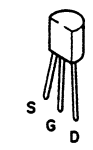
Q301
HC10022490
TEA5581 FM MPX

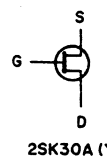


L78MR05

Q501
HC10164030
LM7000N

Q502
HF20030080
2SK30A (Y)



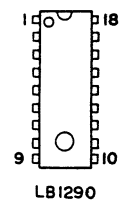


2SK30A (Y)

Q505
HU10007030
LC6514B-3357

Q510,Q511
HC10160030
LB1290

TOP VIEW

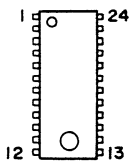


LB1290

Q801
HC10205030
L78MR05

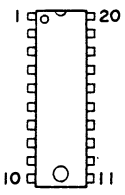
Q204,QA05
HT113092C0
2SA1309A (Q,R)

TOP VIEW



LA1266

TOP VIEW

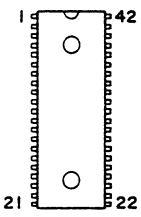


LM7000N

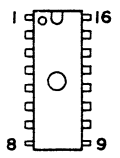
D301,D502,D504
D505~D509,D513~D518
D803
HD20002000
1SS133 etc.

D801
HD30751000
RD7.5JB2 etc.

TOP VIEW



TOP VIEW



TEA5581

D802
HD20003000
10SF10C etc.

DA01,DA02
HD40006030
SVC321SP

LC6514B-3357

MZ 1943

NOTE

: AM/FM SIGNAL ( ) : AM

: AM SIGNAL

: FM SIGNAL

"SERVICE INFORMATION IS FOR USE BY QUALIFIED PERSONNEL ONLY — ANY MISADJUSTMENT OR MISALIGNMENT MAY BE TREATED AS A NON-WARRANTY REPAIR BY ANY MARANTZ SERVICE CENTRE —"

Kind of Common Parts

RESISTOR

R*** (1) GD05 .... 140, Carbon film fixed resistor, ±5% 1/4W

R*** (2) GD05 .... 160, Carbon film fixed resistor, ±5% 1/6W

C*** : **CERAMIC CAP.**

(1) DD1 ..... 370, Ceramic condenser, disc type (titan condenser) Temp. coeff. P350 to N1000 50V

C*** : **CERAMIC CAP.**

(1) DK16 .... 300, High dielectric constant ceramic condenser, disc type (titan variable) Temp. chara. 2B4 50V

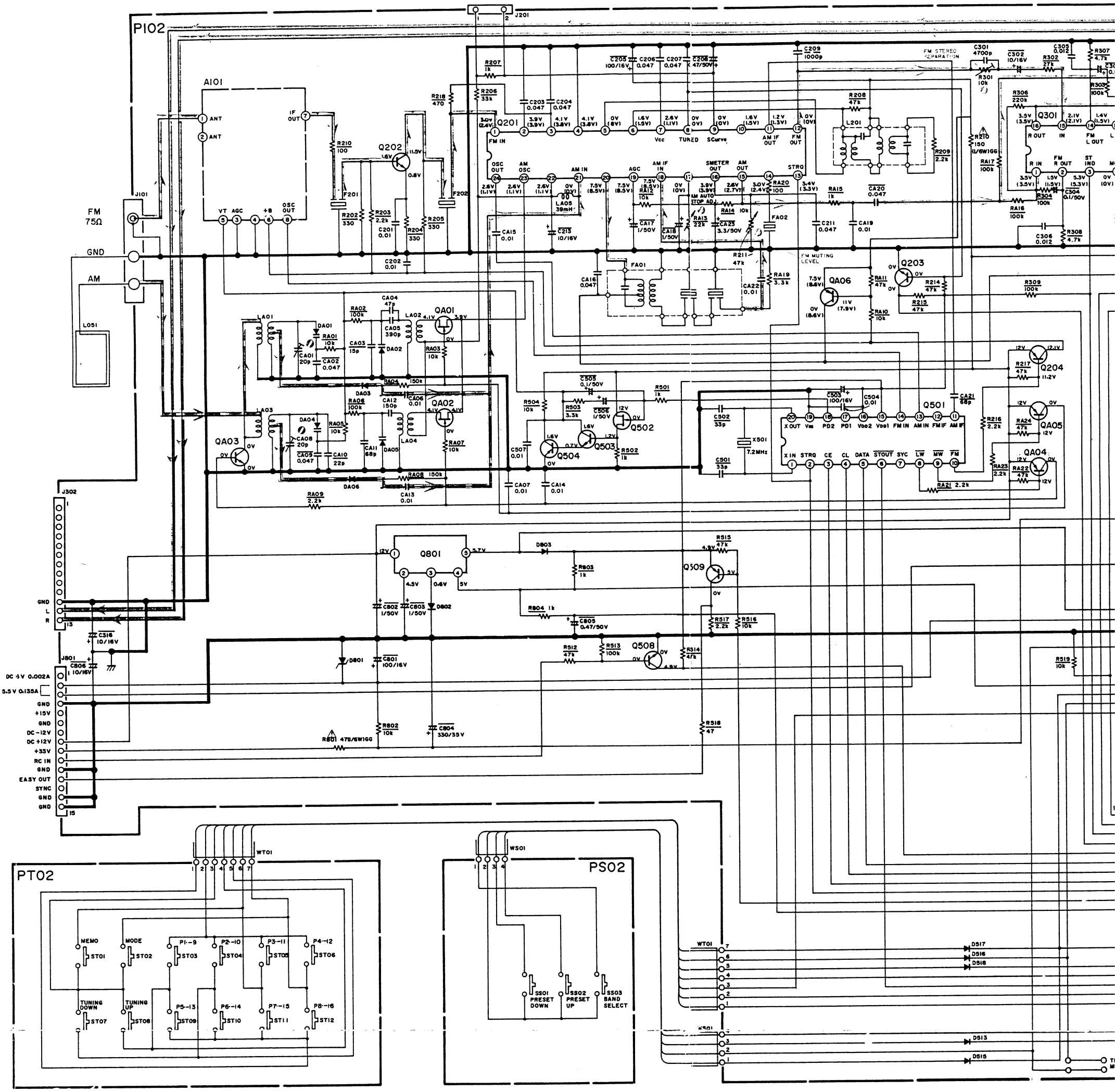
C*** : **ELECTROLY CAP. ( )/FILM CAP. ( )**

(1) EA ..... 10, Electrolytic condenser, one-way lead type, tolerance ±20%

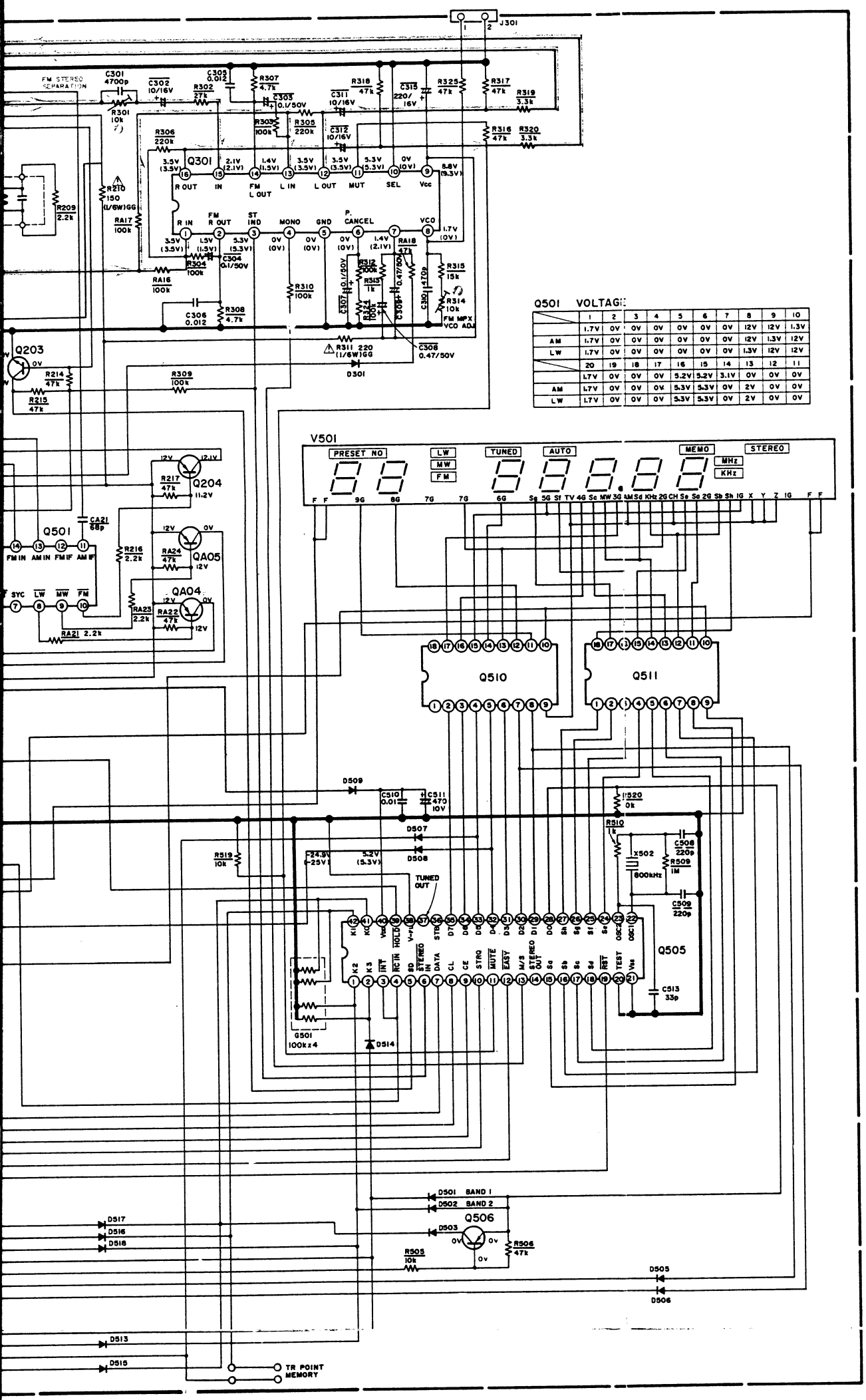
(2) DF15 .... 350, Plastic film condenser, one-way type, Mylar, ±5% 50V

* In case of ordering the common parts, please establish the correct parts number of 10 figures by the procedure "ASSIGNMENT OF COMMON PARTS CODES"

notice.


P102
J201
A101
ANT
ANT
IF OUT
VT AGC +B OSC OUT
J101
FM 75Ω
GND
AM
L051
Q201
FM IN
Vcc
TUNED
SCurve
AM IF OUT
FM OUT
Q202
OSC OUT
AM OSC
AM IN
AGC
AM IF IN
SMETER OUT
AM OUT
STRQ
AM AUTO STOP ADJ.
FM STEREO SEPARATION
FM MUTING LEVEL
Q203
QA06
Q204
Q205
Q501
X OUT
Vss
PD2
PD1
Vdd2
Vdd1
FM IN
AM IN
FM IF
AM IF
XIN
STRQ
CE
CL
DATA
STOUT
SYC
LW
MW
FM
X501
7.2MHz
QA01
QA02
QA03
Q502
Q503
Q504
Q801
Q509
Q508
J302
J801
GND
L
R
DC 3V 0.002A
AC 5.5V 0.135A
GND
+15V
GND
DC -12V
DC +12V
+33V
RC IN
GND
EASY OUT
SYNC
GND
GND
PT02
WT01
MEMO
MODE
P1--9
P2--10
P3--11
P4--12
TUNING DOWN
TUNING UP
P5--13
P6--14
P7--15
P8--16
ST01
ST02
ST03
ST04
ST05
ST06
ST07
ST08
ST09
ST10
ST11
ST12
PS02
WS01
SS01 PRESET DOWN
SS02 PRESET UP
SS03 BAND SELECT
D517
D516
D518
D513
D515

MZ 1944



Q501 VOLTAGE

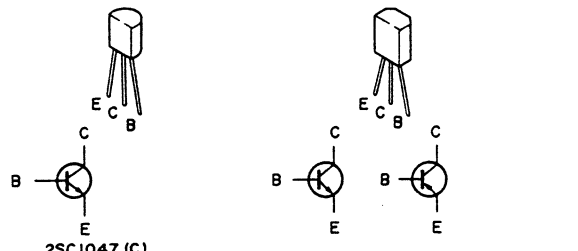
	1	2	3	4	5	6	7	8	9	10
	1.7V	0V	0V	0V	0V	0V	0V	12V	12V	1.3V
AM	1.7V	0V	0V	0V	0V	0V	0V	12V	1.3V	12V
LW	1.7V	0V	0V	0V	0V	0V	0V	1.3V	12V	12V
	20	19	18	17	16	15	14	13	12	11
	1.7V	0V	0V	0V	5.2V	5.2V	3.1V	0V	0V	0V
AM	1.7V	0V	0V	0V	5.3V	5.3V	0V	2V	0V	0V
LW	1.7V	0V	0V	0V	5.3V	5.3V	0V	2V	0V	0V

Q201
HC10222030
LA1266 FM/AM IF

Q202
HT31047IC0
2SC1047 (C)

Q203,Q503,Q504
Q508
HT30001000
2SC536SP(F,G) etc.

Q507,Q509,QA06
HT10001000
2SA608SP(F,G) etc.



Q301
HC10022490
TEA5581 FM MPX

Q501
HC10164030
LM7000N

Q502,QA01,QA02
HF200300B0
2SK30A (Y)

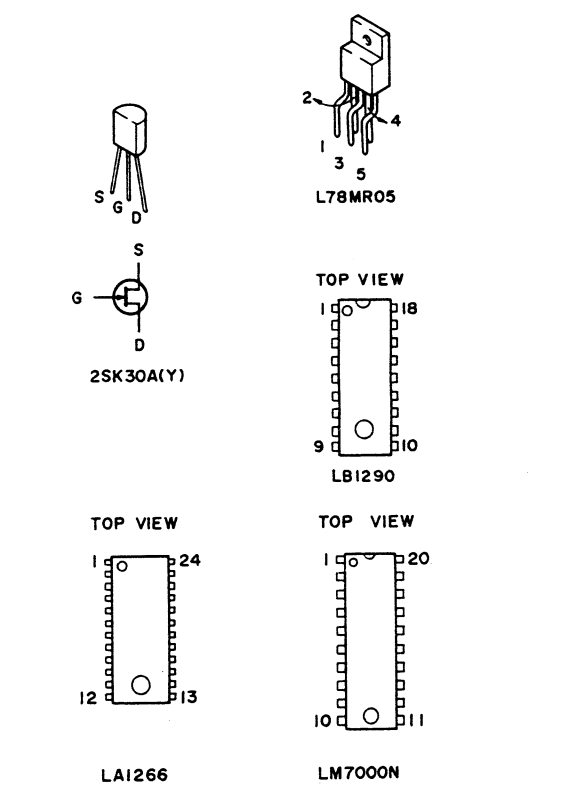
Q505
HU10007030
LC6514B-3357

Q510,Q511
HC10160030
LB1290

Q801
HC10205030
L78MR05

Q204,QA04,QA05
HT113092C0
2SA1309A(Q,R)

QA03
HT413022B0
2SD1302 (S,T)



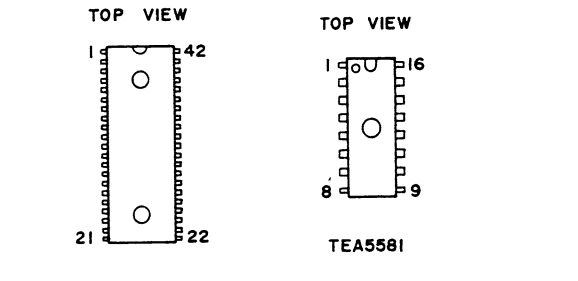
D301,D502,D503
D505~D509,D513~D518
D803
HD20002000
1SS133 etc.

D801
HD30751000
RD7.5JB2 etc.

D802
HD20003000
10SF10C etc.

DA01,DA02,DA04,DA05
HD40006030
SVC321SP

DA03,DA06
HD20017210
1SS135



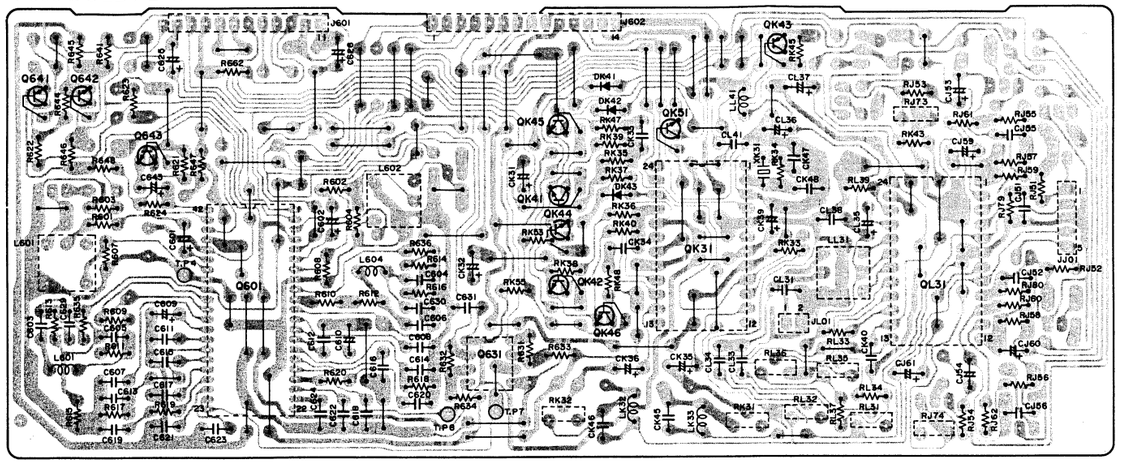
NOTE

: AM/LW/FM SIGNAL ( ): AM

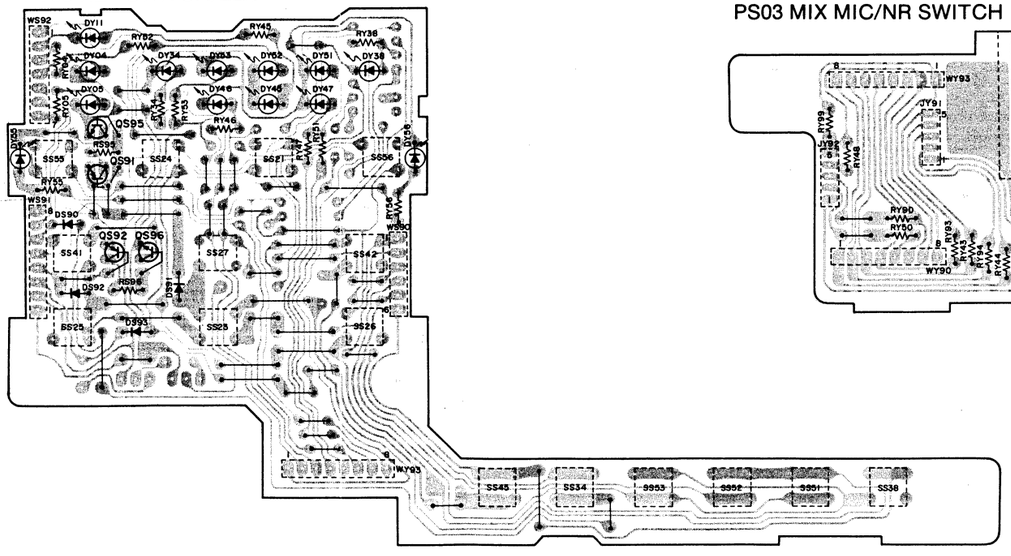
: AM,LW SIGNAL

: FM SIGNAL

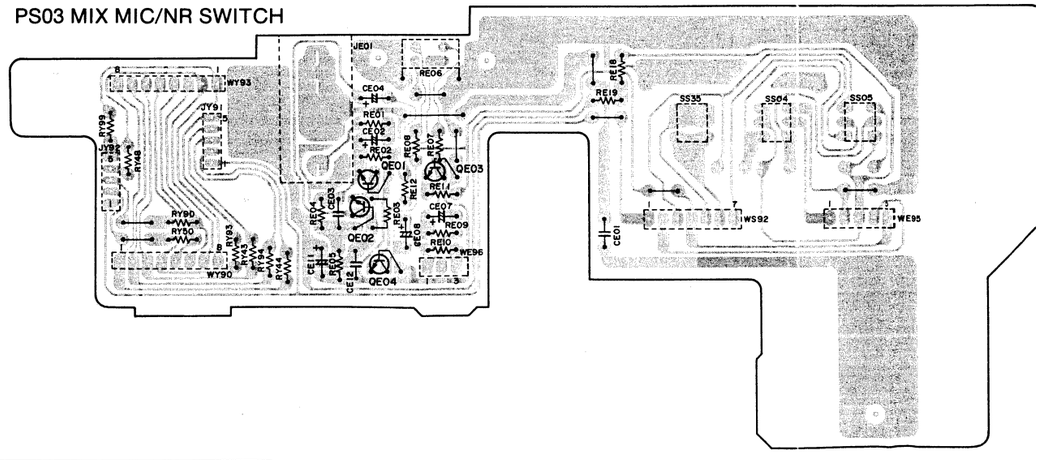
P603 DOLBY B/C



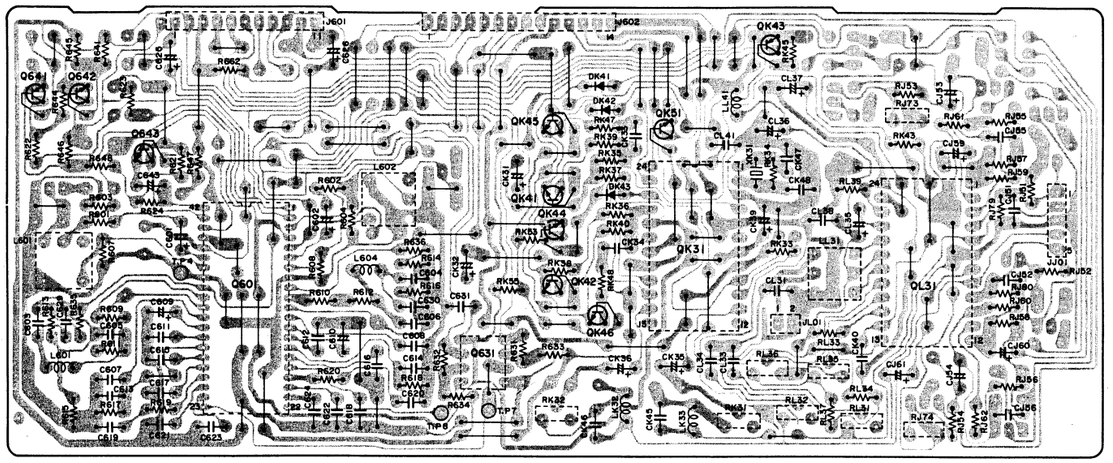
PY03 KEY SWITCH/LED



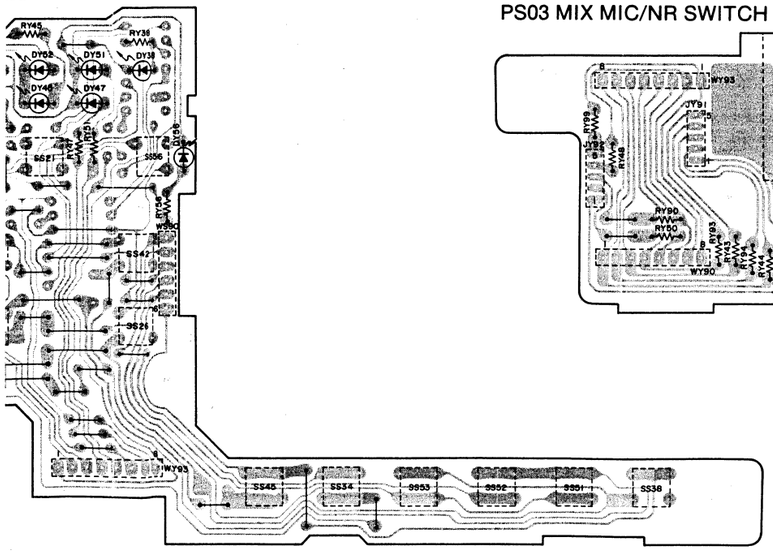
PS03 MIX MIC/NR SWITCH



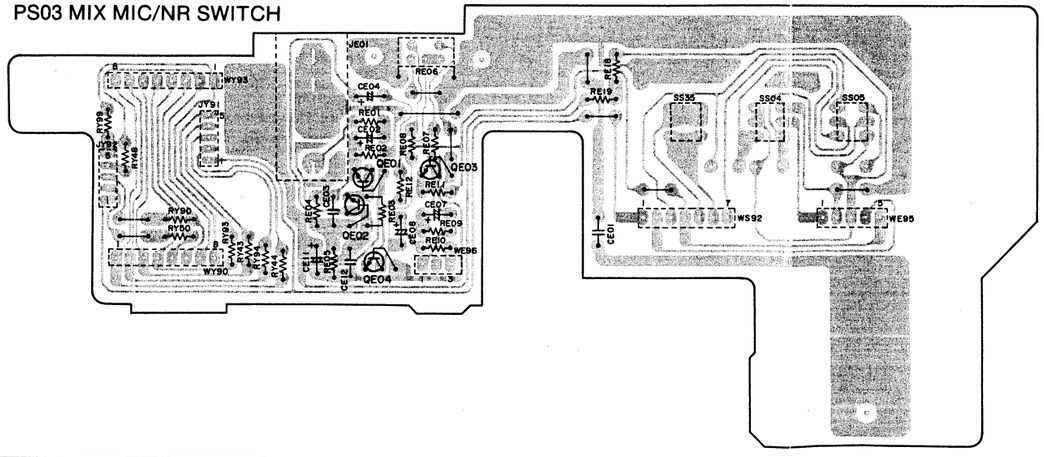
P603 DOLBY B/C



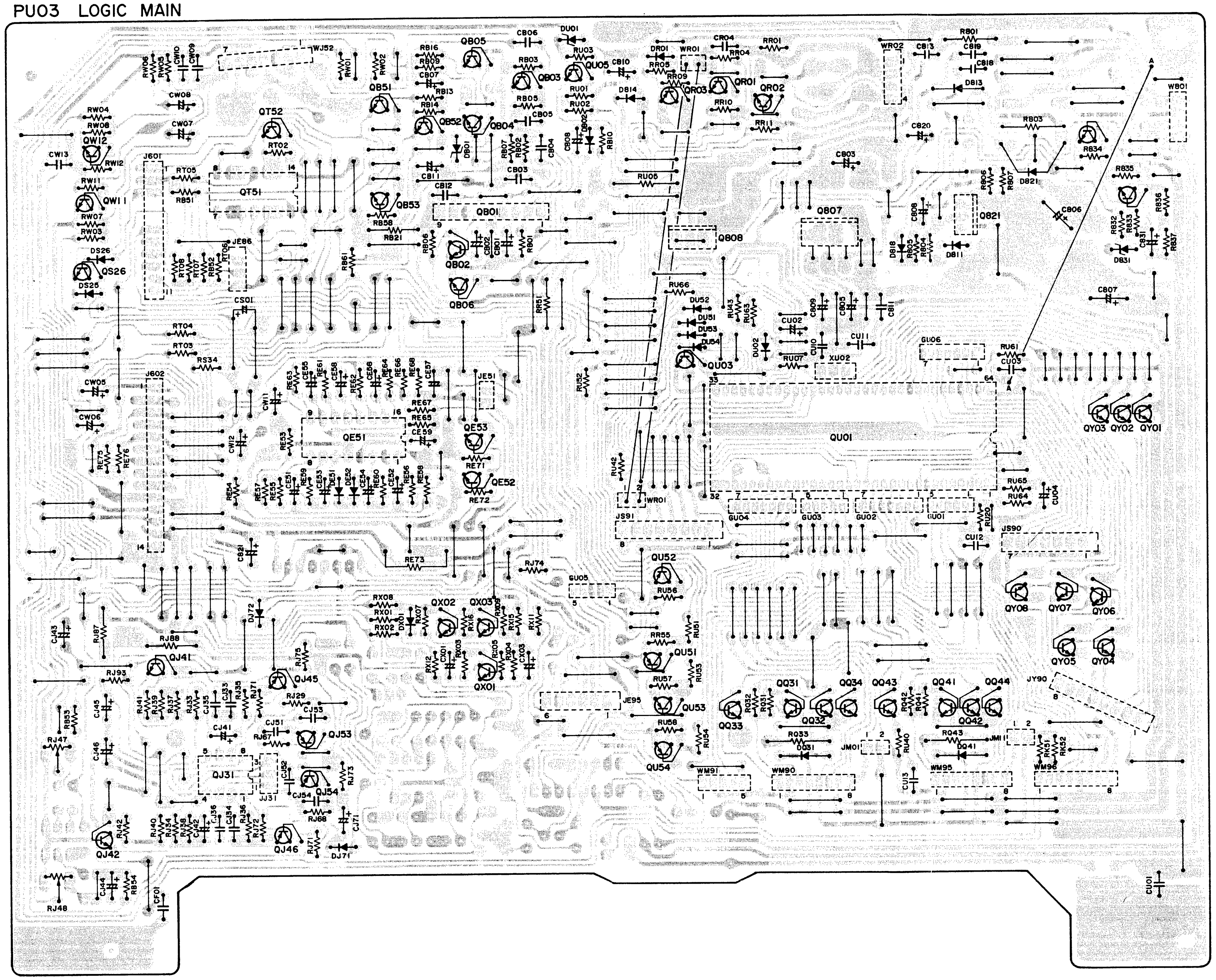
ED



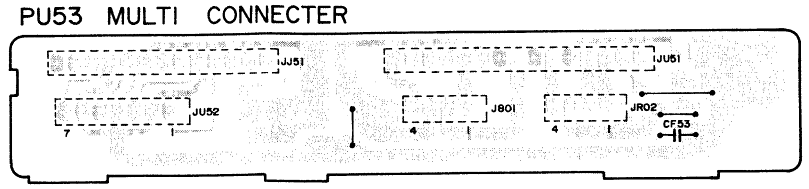
PS03 MIX MIC/NR SWITCH



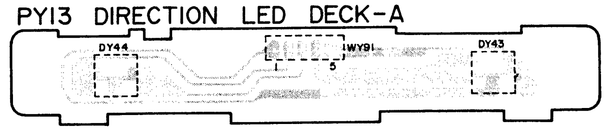
PU03 LOGIC MAIN



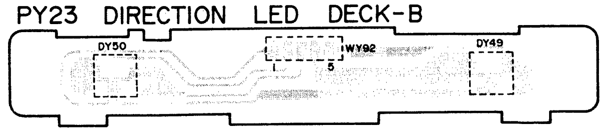
PU53 MULTI CONNECTER



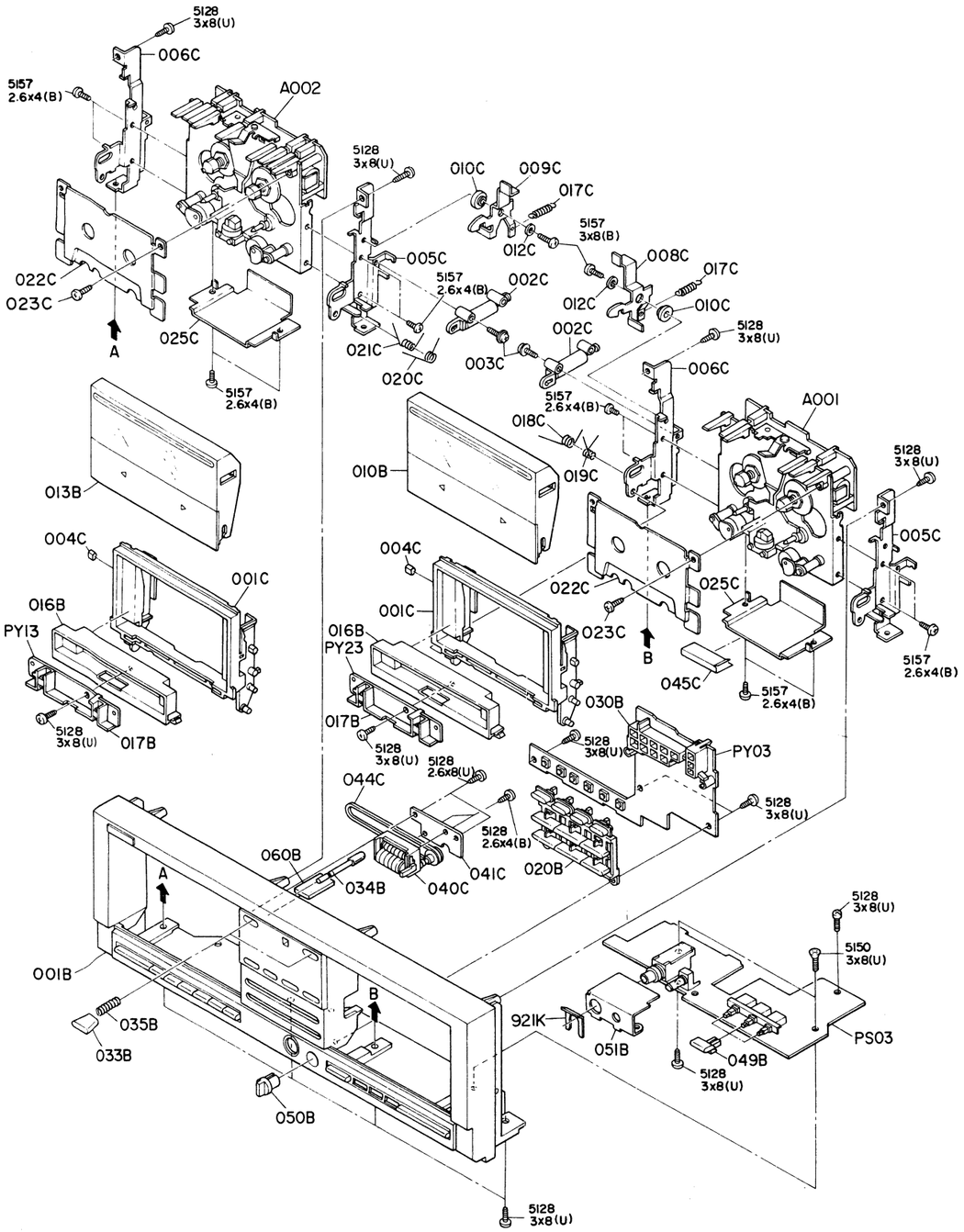
PY13 DIRECTION LED DECK-A



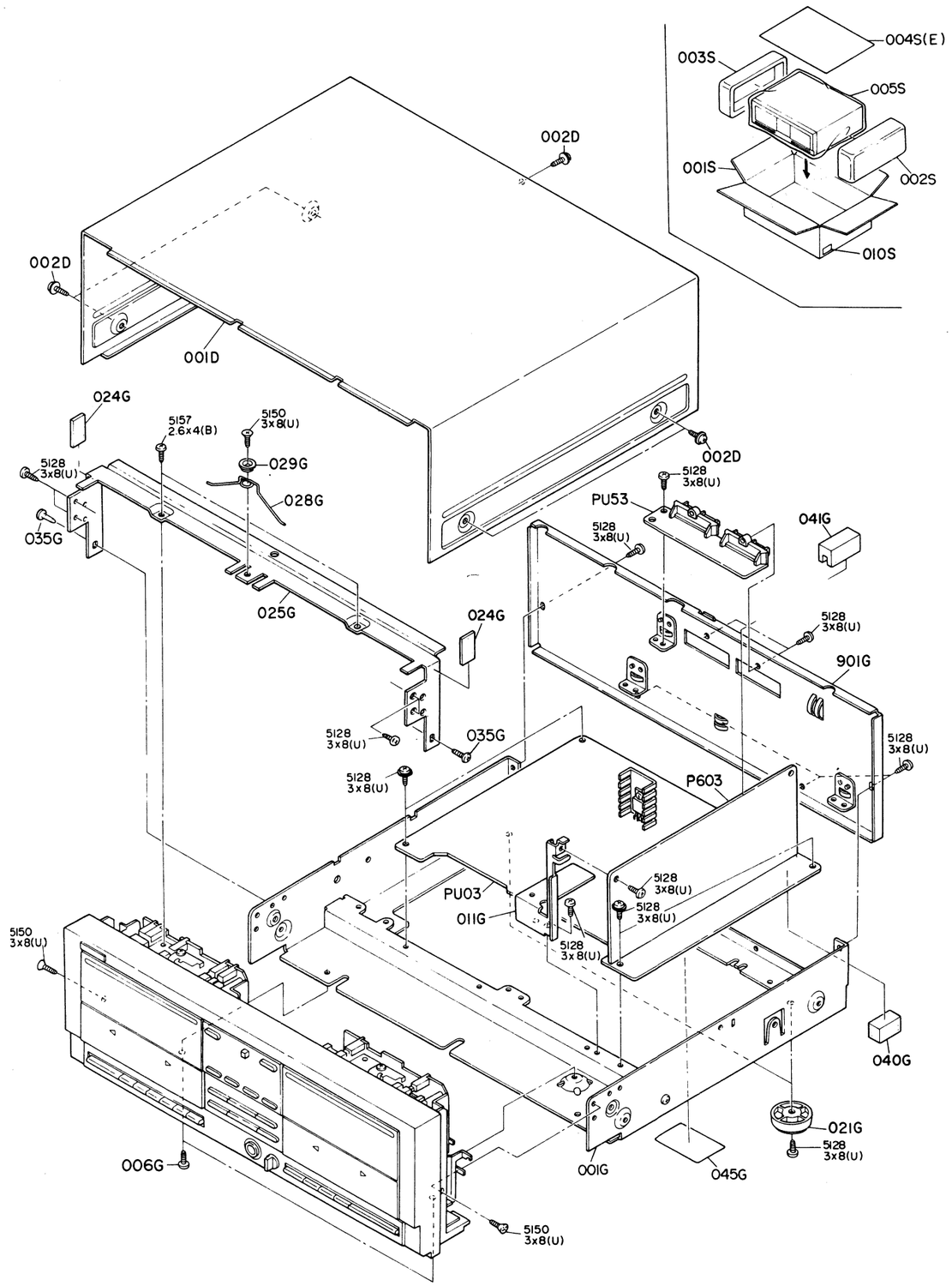
PY23 DIRECTION LED DECK-B



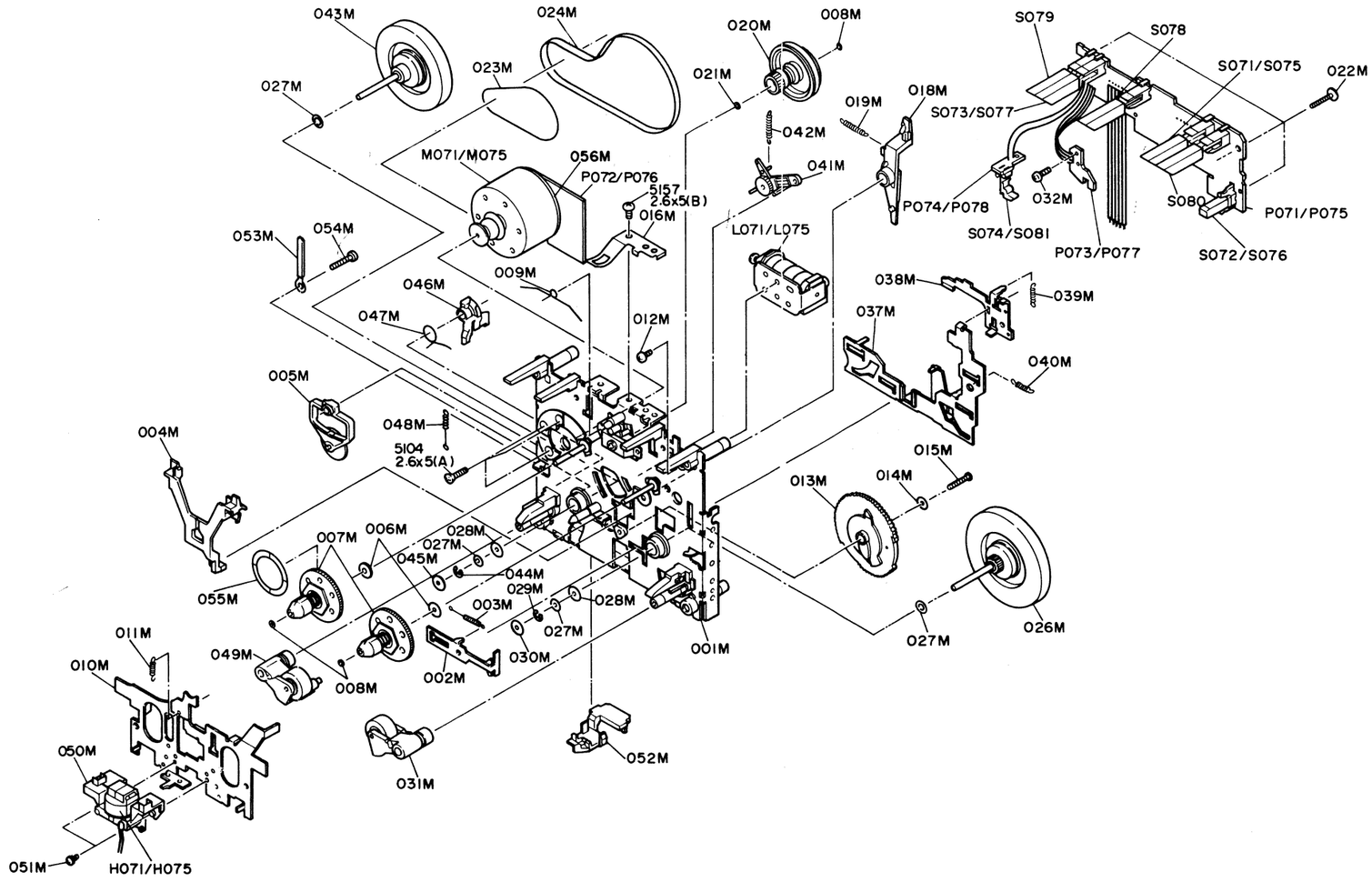
8. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 443 40657	Front Panel Assembly
010B	4822 443 62496	Window Assembly A, Cassette
013B	4822 443 62497	Window Assembly B, Cassette
016B	4822 443 62495	Cover, Play LED
020B	4822 410 26559	Button Assembly, Mecha
033B	4822 410 26555	Button, Eject
035B	4822 492 42164	Spring, Eject
049B	4822 410 26558	Button, Sync Rec/Dolby NR
050B	4822 412 20997	Knob, Mix Level
060B	4822 535 71093	Spacer
001C	4822 459 20391	Door Assembly, Cassette Holder
002C	4822 464 50528	Dumper Assembly
003C	4822 502 12557	Screw
004C	4822 492 63414	Leaf Spring
008C	4822 403 53328	Hook, Left
009C	4822 403 53329	Hook, Right
010C	4822 532 11636	Collar, Eject Hook
012C	4822 532 21181	Flat Washer, P.
017C	4822 492 32816	Spring, Eject Hook
018C	4822 492 41643	Spring, Door Open A
019C	4822 492 41644	Spring, Cassette Open A
020C	4822 492 42165	Spring, Door Open B
021C	4822 492 42166	Spring, Cassette Open B
022C	4822 459 80428	Cover, Mecha
023C	4822 502 13098	B.T. Screw B3 x 10
040C	4822 349 50324	Counter, Tape
041C	4822 530 70451	Retainer, Counter
044C	4822 358 30519	Belt, Counter
921K	4822 462 41037	Stopper, Jack



REF. DESIG.	PART NO.	DESCRIPTION	
001D	4822 426 40367	Lid, Top Cover	
002D	4822 502 12355	B.T. Screw	B3 x 8
021G	4822 462 41186	Leg, Rear	
024G	4822 466 92175	Buffer	
028G	4822 492 63974	Spring, Eject Hook	
029G	4822 532 11656	Collar	
035G	4822 502 12355	B.T. Screw	B3 x 8
040G	4822 462 41038	Buffer	
041G	4822 462 71538	Buffer	
045G	4822 600 70229	Label, Caution	
901G	4822 443 51128	Rear Panel Assembly	
		PACKING	
002S	4822 600 70473	Cushion, Right	
003S	4822 600 70545	Cushion, Left	


043M
024M
020M
008M
027M
023M
021M
019M
018M
S079
S078
S071/S075
022M
S073/S077
042M
M071/M075
056M
P072/P076
041M
5157
2.6x5(B)
016M
032M
S080
P071/P075
P074/P078
S074/S081
P073/P077
S072/S076
053M
054M
L071/L075
009M
038M
039M
046M
047M
012M
037M
040M
005M
004M
048M
5104
2.6x5(A)
015M
013M
014M
007M
006M
028M
027M
045M
044M
029M
003M
028M
055M
027M
001M
027M
026M
011M
049M
030M
010M
008M
002M
050M
052M
031M
051M
H071/H075

REF. DESIG.	PART NO.	DESCRIPTION
002M	4822 403 53331	Lever, Cam Gear
003M	4822 492 32817	Spring, Cam Gear
004M	4822 403 53325	Arm, Hold Lever
005M	4822 403 53326	Arm Assembly, Idler
006M	4822 502 12167	Washer
007M	4822 528 10588	Table Assembly, Reel
008M	4822 535 71232	Spacer
009M	4822 492 63898	Spring, Hold
010M	4822 464 50723	Chassis, Head Base
011M	4822 492 32818	Spring
012M	4822 532 11594	L. Washer Screw
013M	4822 522 32421	Arm, Cam Gear
014M	4822 532 51962	Washer
015M	4822 502 13003	Screw M2 x 13
016M	4822 492 63899	Leaf Spring
018M	4822 403 53327	Arm, Play
019M	4822 492 32819	Spring, Play Arm
020M	4822 528 40284	Clinger Assembly, Clutch
021M	4822 532 11635	Washer
022M	4822 502 13004	Screw M2 x 13
023M	4822 358 30811	Belt, Sub
024M	4822 358 30814	Belt, Main
026M	4822 528 60331	Flywheel Assembly, 2.5
027M	4822 532 11398	Washer
028M	4822 532 51963	Washer
029M	4822 530 70439	Stopper, E Ring
030M	4822 535 71101	Spacer
031M	4822 528 70514	Pinch Roller, 2.5
032M	4822 502 13005	Screw M2 x 6
037M	4822 403 53341	Lever, Slider
038M	4822 403 53342	Lever
039M	4822 492 32821	Spring, Lever
040M	4822 492 32822	Spring, Slider
041M	4822 403 53337	Arm Assembly, Gear
042M	4822 492 32823	Spring, REV Gear
043M	4822 528 60332	Flywheel Assembly, 2.2
044M	4822 530 70441	Stopper, E Ring
045M	4822 532 51967	Washer
046M	4822 403 53338	Arm, Direction
047M	4822 492 42247	Spring, Direction Arm
048M	4822 492 32824	Spring, Reverse
049M	4822 528 70515	Pinch Roller, 2.2
050M	4822 403 53466	Bracket Assembly, Head
051M	4822 502 12149	L. Washer Screw
052M	4822 403 53339	Holder, Lead
054M	4822 502 13011	Screw M2.6 x 8
055M	4822 532 51964	Mask, Reflector
H071	4822 249 30123	Head, Playback (A)
H075	4822 249 10349	Head, Rec/Play/Erase (B)
L071	4822 157 53318	Solenoid Coil (A)
L075	4822 157 53318	Solenoid Coil (B)
M071	4822 361 21069	D.C. Motor (A)
M075	4822 361 21069	D.C. Motor (B)
Q071	4822 130 80624	Photo Unit, Sensor (A)
Q075	4822 130 80624	Photo Unit, Sensor (B)

REF. DESIG.	PART NO.	DESCRIPTION
S071	4822 271 30609	Mini Switch, Tape (A)
S072	4822 276 12341	Mini Switch, Play (A)
S073	4822 271 30609	Mini Switch, CrO_2 (A)
S074	4822 271 30611	Mini Switch, Direction (A)
S075	4822 271 30609	Mini Switch, Tape (B)
S076	4822 276 12341	Mini Switch, Play (B)
S077	4822 271 30609	Mini Switch, CrO_2 (B)
S078	4822 271 30609	Mini Switch, Metal (B)
S079	4822 271 30609	Mini Switch, Anti Rec A (B)
S080	4822 271 30609	Mini Switch, Anti Rec B (B)
S081	4822 271 30611	Mini Switch, Direction (B)

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05---140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05---160, Carbon film fixed resistor, ±5%, 1/6W

① — Resistance value

Examples

① Resistance value

0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
1Ω...010	100Ω...101	10kΩ...103	1MkΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MkΩ...475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C***: CERAMIC CAP.

(1) DD1---370, Ceramic condenser
①② Disc type
Temp. coeff. P350 ~ N1000, 50V
Capacity value
Tolerance

Examples

① Tolerance (Capacity deviation)
±0.25pF...0
±0.5pF...1
±5%...5

* Tolerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF...±0.25pF
6pF ~ 10pF...±0.5pF
12pF ~ 560pF...±5%

② Capacity value

0.5pF...005	3pF...030	100pF...101
1pF...010	10pF...100	220pF...221
1.5pF...015	47pF...470	560pF...561

C***: CERAMIC CAP.

(1) DK16---300, High dielectric constant ceramic condenser
① Disc type
Temp. chara. 2B4, 50V
Capacity value

Example

② Capacity value

100pF...101	1000pF...102	10000pF...103
470pF...471	2200pF...222	

C***: ELECTROLY CAP. (⧧), FILM CAP. (⧦)

(1) EA------10, Electrolytic condenser
①② One-way lead type, Tolerance ±20%
Dielectric strength
Capacity value

Examples

① Capacity value

0.1μF...104	4.7μF...475	100μF...107
0.33μF...334	10μF...106	330μF...337
1μF...105	22μF...226	1100μF...108
		2200μF...228

② Working voltage

6.3V...006	25V...025
10V...010	35V...035
16V...016	50V...050

(2) DF15---350, Plastic film condenser
① One-way type, Mylar ±5% 50V
Capacity value

Examples

① Capacity value

0.001μF (1000pF)...102	0.1μF...104
0.0018μF.....182	0.56μF...564
0.01μF.....103	1μF...105
0.015μF.....153	

9. ELECTRICAL PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
		PS03-MIX MIC/NR SW CIRCUIT BOARD
CE01	4822 122 40306	Ceramic Cap. 0.047μF +80% −20%
CE03	4822 122 40103	Ceramic Cap. 5pF ±0.25pF
CE12	4822 122 32486	Ceramic Cap. 0.01μF +80% −20%
RE06	4822 100 20616	Variable Resistor 10KΩ
QE01	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QE02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QE03	4822 130 61189	Transistor DTC114TS, Digital
QE04	4822 130 61189	Transistor DTC114TS, Digital
JE01	4822 267 30756	Jack, Mic
JY91	4822 267 40791	Jack, 5P
JY92	4822 267 40791	Jack, 5P
SS04	4822 277 11082	Push Switch, NR ON/OFF
SS05	4822 277 11082	Push Switch, Dolby B/C
SS35	4822 277 11082	Push Switch, Sync Rec
WE95	4822 323 10155	Jumper Lead, 5P
WS92	4822 323 10119	Jumper Lead, 7P
WY93	4822 323 10158	Jumper Lead, 8P
		PU03-LOGIC MAIN CIRCUIT BOARD
		PU03-CAPACITORS
CB03	4822 122 40491	Ceramic 0.022μF +80% −20%
CB04	4822 122 40491	Ceramic 0.022μF +80% −20%
CB05	5322 122 31626	Ceramic 100pF ±5%
CB06	4822 122 40491	Ceramic 0.022μF +80% −20%
CB12	4822 122 40306	Ceramic 0.047μF +80% −20%
CF01	4822 122 40491	Ceramic 0.022μF +80% −20%
CR04	4822 122 32486	Ceramic 0.01μF +80% −20%
CU01	4822 122 40491	Ceramic 0.022μF +80% −20%
CU03	4822 122 40306	Ceramic 0.047μF +80% −20%
CU10	4822 122 40589	Ceramic 0.047μF +80% −20%
CU11	4822 122 40306	Ceramic 0.047μF +80% −20%
CU12	4822 122 32486	Ceramic 0.01μF +80% −20%
CU13	4822 122 32486	Ceramic 0.01μF +80% −20%
CW13	4822 122 40491	Ceramic 0.022μF +80% −20%
C811	4822 122 40306	Ceramic 0.047μF +80% −20%
C813	4822 122 32486	Ceramic 0.01μF +80% −20%
C818	4822 122 32486	Ceramic 0.01μF +80% −20%
C819	4822 122 32486	Ceramic 0.01μF +80% −20%
		PU03-RESISTORS
RB21	5322 116 53285	180Ω ±5% ½W
RE73	5322 116 53285	180Ω ±5% ½W
RJ47	4822 100 11351	10KΩ, Trimming
RJ48	4822 100 11351	10KΩ, Trimming
RQ33	4822 116 60444	180Ω ±5% 1W, Metal
RQ43	4822 116 60444	180Ω ±5% 1W, Metal
RU05	4822 116 52893	1KΩ ±5% ½W
⚠R801	4822 116 21086	1Ω ±5% ½W, Fusible
⚠R803	4822 116 60314	10Ω ±5% ¼W, Fusible

REF. DESIG.	PART NO.	DESCRIPTION
GU01	4822 111 91185	10KΩx4, Array
GU02	4822 111 91276	10KΩx6, Array
GU03	4822 111 91185	10KΩx4, Array
GU04	4822 111 91276	10KΩx6, Array
GU05	4822 111 91185	10KΩx4, Array
GU06	4822 111 91276	10KΩx6, Array
		PU03-SEMICONDUCTORS
DB01	4822 130 80273	Zener 8.2V
DB02	4822 130 33305	Diode 1SS133, etc.
DE51	4822 130 33305	Diode 1SS133, etc.
DE52	4822 130 33305	Diode 1SS133, etc.
DJ71	4822 130 33305	Diode 1SS133, etc.
DJ72	4822 130 33305	Diode 1SS133, etc.
DQ31	4822 130 32508	Diode DSF10C, etc.
DQ41	4822 130 32508	Diode DSF10C, etc.
DR01	4822 130 33305	Diode 1SS133, etc.
DS25	4822 130 33305	Diode 1SS133, etc.
DS26	4822 130 33305	Diode 1SS133, etc.
DU01	4822 130 80317	Zener 5.1V
DU02	4822 130 33305	Diode 1SS133, etc.
DU51	4822 130 80091	Zener 12V
DU52	4822 130 80091	Zener 12V
DU53	4822 130 80091	Zener 12V
DU54	4822 130 80091	Zener 12V
DX01	4822 130 33305	Diode 1SS133, etc.
D811	4822 130 33305	Diode 1SS133, etc.
⚠ D813	4822 130 32508	Diode DSF10C, etc.
D814	4822 130 33305	Diode 1SS133, etc.
D818	4822 130 33305	Diode 1SS133, etc.
D831	4822 130 80318	Zener 6.8V
QB01	4822 209 83706	IC BA335
QB02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QB03	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QB04	4822 130 61189	Transistor DTC114TS, Digital
QB05	4822 130 60588	Transistor DTC114ES, Digital
QB06	4822 130 61189	Transistor DTC114TS, Digital
QB51	4822 130 61189	Transistor DTC114TS, Digital
QB52	4822 130 61189	Transistor DTC114TS, Digital
QB53	4822 130 61189	Transistor DTC114TS, Digital
QE51	4822 209 82434	IC BA343
QE52	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QE53	4822 130 61189	Transistor DTC114TS, Digital
QJ31	4822 209 73064	IC NJM2068DD
QJ41	4822 130 61188	Transistor DTC144TS, Digital
QJ42	4822 130 61188	Transistor DTC144TS, Digital
QJ45	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QJ46	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QJ53	4822 130 61187	Transistor DTA144TS, Digital
QJ54	4822 130 61187	Transistor DTA144TS, Digital
QQ31	4822 130 60173	Transistor 2SC2060(Q, R)
QQ32	4822 130 43191	Transistor 2SC1741(Q, R)
QQ33	4822 130 61189	Transistor DTC114TS, Digital
QQ34	4822 130 61189	Transistor DTC114TS, Digital
QQ41	4822 130 60173	Transistor 2SC2060(Q, R)
QQ42	4822 130 43191	Transistor 2SC1741(Q, R)
QQ43	4822 130 61189	Transistor DTC114TS, Digital
QQ44	4822 130 61189	Transistor DTC114TS, Digital
QR01	4822 130 61188	Transistor DTC144TS, Digital
QR02	4822 130 42594	Transistor DTC144ES, Digital
QR03	4822 130 61227	Transistor DTA114ES, Digital

REF. DESIG.	PART NO.	DESCRIPTION
QS26	4822 130 61189	Transistor DTC114TS, Digital
QT51	4822 209 83067	IC TC4066RP
QT52	4822 130 61188	Transistor DTC144TS, Digital
QU01	4822 209 72548	Microprocessor μPD7510B
QU03	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QU05	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QU51 ~ QU54	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QW11	4822 130 42125	Transistor 2SD1302(S, T)
QW12	4822 130 42125	Transistor 2SD1302(S, T)
QX01	4822 130 43118	Transistor 2SC1740(R, S)
QX02	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QX03	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QY01 ~ QY08	4822 130 61189	Transistor DTC114TS, Digital
⚠ Q807	4822 209 70385	IC L78MR05
Q821	4822 130 41768	Transistor 2SD313(E)
Q831	4822 130 42298	Transistor 2SC536SP(F, G), etc.
Q832	4822 130 42298	Transistor 2SC536SP(F, G), etc.
		PU03-MISCELLANEOUS
JE51	4822 265 20311	Plug 2P
JE95	4822 265 10061	Jack, 5P
JE96	4822 265 10062	Jack, 3P
JJ31	4822 265 10078	Plug, 3P
JM01	4822 265 20311	Plug, 2P
JM11	4822 265 20311	Plug, 2P
JS90	4822 265 10063	Jack, 6P
JS91	4822 265 10059	Jack, 8P
JY90	4822 265 10059	Jack, 8P
WJ52	4822 323 10122	Jumper Lead, 7P
WR01	4822 323 10162	Jumper Lead, 2P
WR02	4822 323 10087	Jumper Lead, 4P
W801	4822 323 10112	Jumper Lead, 4P
XU02	4822 242 72194	Ceramic Vibrator, 4.19MHz
		PU53-MULTI CONNECTOR CIRCUIT BOARD
CF53	4822 122 40306	Ceramic Cap. 0.047μF +80%−20%
JJ51	4822 266 30306	Terminal, 13P
JR02	4822 265 10105	Jack, 4P
JU51	4822 266 30315	Terminal, 15P
JU52	4822 265 10064	Jack, 7P
J801	4822 265 10105	Jack, 4P
		PY03-KEY SW/LED CIRCUIT BOARD
DS90 ~ DS93	4822 130 33305	Diode 1SS133, etc

MZ 1975

REF. DESIG.	PART NO.	DESCRIPTION
DY04	4822 130 80327	L.E.D. LT3G8B
DY05	4822 130 80326	L.E.D. LT3D8B
DY11	4822 130 80327	L.E.D. LT3G8B
DY34	4822 130 80326	L.E.D. LT3D8B
DY38	4822 130 80326	L.E.D. LT3D8B
DY45	4822 130 80326	L.E.D. LT3D8B
DY46	4822 130 80326	L.E.D. LT3D8B
DY47	4822 130 80326	L.E.D. LT3D8B
DY51	4822 130 80326	L.E.D. LT3D8B
DY52	4822 130 80326	L.E.D. LT3D8B
DY53	4822 130 80326	L.E.D. LT3D8B
DY55	4822 130 80326	L.E.D. LT3D8B
DY56	4822 130 80326	L.E.D. LT3D8B
QS91	4822 130 61186	Transistor DTA114S, Digital
QS92	4822 130 61186	Transistor DTA114S, Digital
QS95	4822 130 43191	Transistor 2SC1741(Q, R)
QS96	4822 130 43191	Transistor 2SC1741(Q, R)
SS21	4822 276 11559	Push Switch
SS23 ~ SS27	4822 276 11559	Push Switch
SS34	4822 276 11559	Push Switch
SS38	4822 276 11559	Push Switch
SS41	4822 276 11559	Push Switch
SS42	4822 276 11559	Push Switch
SS45	4822 276 11559	Push Switch
SS51	4822 276 11559	Push Switch
SS52	4822 276 11559	Push Switch
SS53	4822 276 11559	Push Switch
SS55	4822 276 11559	Push Switch
SS56	4822 276 11559	Push Switch
WS90	4822 323 10099	Jumper Lead, 6P
WS91	4822 323 10233	Jumper Lead, 8P
WY90	4822 323 10189	Jumper Lead, 8P
		PY13-DIRECTION LED (DECK-A) CIRCUIT BOARD
DY43	4822 130 80118	L.E.D. LN173WP68
DY44	4822 130 80118	L.E.D. LN173WP68
		PY23-DIRECTION LED (DECK-B) CIRCUIT BOARD
DY49	4822 130 80118	L.E.D. LN173WP68
DY50	4822 130 80118	L.E.D. LN173WP68

REF. DESIG.	PART NO.	DESCRIPTION
		P603-DOLBY B/C PROCESSOR CIRCUIT BOARD
		P603-CAPACITORS
C631	4822 122 40306	Ceramic 0.047μF +80% −20%
CK40	4822 122 32486	Ceramic 0.01μF +80% −20%
CK47	4822 122 32917	Ceramic 33pF ±5%
CK48	4822 122 32917	Ceramic 33pF ±5%
CL31	4822 121 42791	Film 4700pF ±5%
CL33	4822 122 40522	Ceramic 220pF ±10%
CL34	4822 122 40522	Ceramic 220pF ±10%
CL38	4822 122 40589	Ceramic 0.047μF +80% −20%
CL41	4822 122 32486	Ceramic 0.01μF +80% −20%
		P603-RESISTORS
RJ73	4822 100 11249	100Ω, Trimming
RJ74	4822 100 11249	100Ω, Trimming
RK31	4822 100 20541	47KΩ, Trimming
RK32	4822 100 20541	47KΩ, Trimming
RL31	4822 100 20672	100KΩ, Trimming
RL32	4822 100 20672	100KΩ, Trimming
RL35	4822 100 20537	10KΩ, Trimming
RL36	4822 100 20537	10KΩ, Trimming
		P603-SEMICONDUCTORS
DK41	4822 100 33305	Diode 1SS133, etc.
DK42	4822 100 33305	Diode 1SS133, etc.
DK43	4822 100 33305	Diode 1SS133, etc.
Q601	4822 209 73092	IC CX20187
Q631	4822 209 80401	IC NJM4558D
Q641	4822 130 42682	Transistor DTA144ES, Digital
Q642	4822 130 42298	Transistor 2SC536SP(F, G), etc.
Q643	4822 130 60588	Transistor DTC114ES, Digital
QK31	4822 209 70379	IC TDD1601
QK41	4822 130 61189	Transistor DTC114TS, Digital
QK42	4822 130 61189	Transistor DTC114TS, Digital
QK43	4822 130 42715	Transistor 2SA608SP(F, G), etc.
QK44	4822 130 61189	Transistor DTC114TS, Digital
QK45	4822 130 61189	Transistor DTC114TS, Digital
QK46	4822 130 61189	Transistor DTC114TS, Digital
QK51	4822 130 42298	Transistor 2SC536SP(F, G), etc.
QL31	4822 209 70378	IC TDA1600
		P603-MISCELLANEOUS
J601	4822 265 40592	Plug, 11P
J602	4822 265 20312	Plug, 14P
JJ01	4822 267 40793	Plug, 5P
JL01	4822 265 20289	Plug, 2P
L601	4822 157 52461	M.P.X. Coil
L602	4822 157 52461	M.P.X. Coil
L603	4822 157 53521	Choke Coil 22mH
L604	4822 157 53521	Choke Coil 22mH
LK31	4822 157 53521	Choke Coil 22mH
LK32	4822 157 53521	Choke Coil 22mH
LL31	4822 146 10184	OSC Transformer
LL41	4822 152 20622	Choke Coil 2.2mH
XK31	4822 242 71533	Ceramic Vibrator, 500KHz

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

NOTE ON SAFETY:
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

10. TECHNICAL SPECIFICATIONS

CASSETTE DECK SD583

General

Mechanism	2 x logic
Motors and type	Four DC
Number of heads	Three
Auto reverse	2 x yes
Auto tape selection	yes
High speed dubbing	yes
ALC (Auto Level Control)	yes

Frequency response (without Dolby)

Normal tape	20 Hz - 16 kHz
Chrome tape	20 Hz - 17 kHz
Metal tape	20 Hz - 18 kHz

Signal to noise ratio (Chrome tape) 1 kHz

With Dolby B/C	65-73 dB
Without Dolby	55 dB

Wow and flutter

DIN weighted	0.15%
RMS weighted	0.08%

Outputs

Line level/impedance	500 mV/ 3kOhm
Dimensions (W x H x D)	360 x 120 x 300 mm
Net weight	4.3kg